

**AN INVOCATION**



**IN THE  
CANADIAN  
NORTH WEST**

## INTRODUCTION



While the venturesome may be attracted by huge, unexplored and unsettled countries, the more conservative element, particularly the agricultural class for whose information this handbook is particularly compiled, prefer to wait until the explorer has done his part and the pioneers immediately succeeding him have created openings for settled industry, and have demonstrated the capabilities and limitations of soil and climate over a sufficient number of years to lend stability to conclusions arrived at on these important subjects. The time then comes in the history of all new countries when men no longer spend their energies and capital in a more or less severe struggle for existence and when nature, vanquished by the hardihood that could not be discouraged, finally yields up the treasures she has stored in secret for century after century. The Canadian North West Territories have now emerged from the chrysalis stage. More than a quarter of a century has passed since the intrepid pioneer farmers and ranchers braved the hardships of isolation and the financial risks incidental to undertaking all new and untried ventures and planted their standards on our western prairies and, as will be shown in the following pages, demonstrated to the world that Western Canada contained within its boundaries as rich agricultural and pastoral lands as may be found anywhere and that the "great, lone land," then inhabited chiefly by the buffalo and roving bands of Indians, was destined to furnish happy and prosperous homes for millions of those who were compelled to flee from the crush and competition of Europe and the Eastern States, or who were imbued with a desire to lead the more unconventional, though somewhat more strenuous, life of new countries.

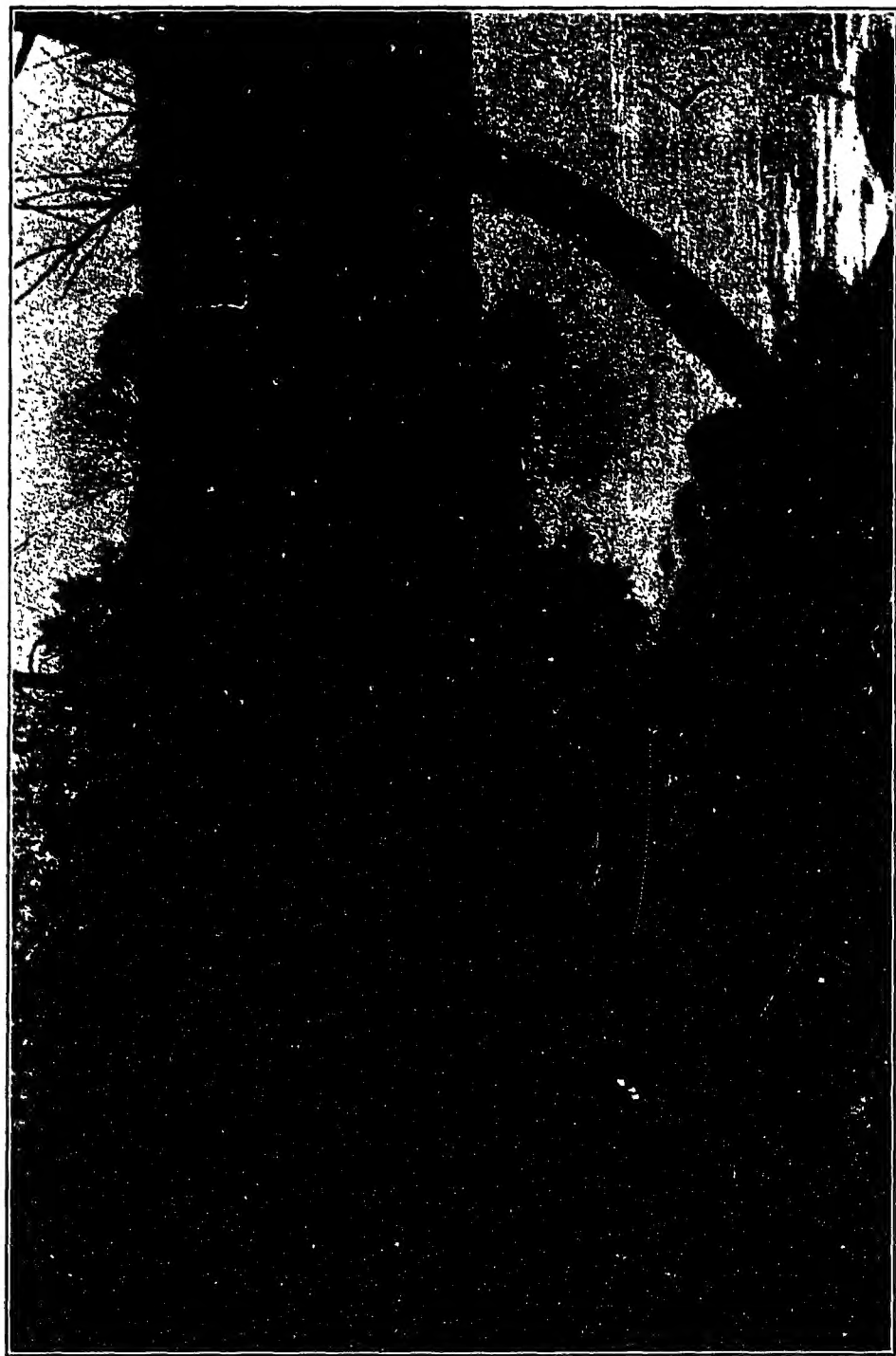
In the words of the *Minneapolis Journal*, one of the leading daily papers of the United States. Canada, long neglected and long retarded in development by competition with the popular west of the great republic to the south, was for generations well described as "the sleeping empire beyond." But the dormant period is past, the life blood of commerce and the stimulus of immigration have awakened the mighty region that stretches west from the Red River

Valley to the Rocky Mountains beyond the Saskatchewan and north-west into the Peace River Valley. The land that will yet be the home of millions, that will raise the wheat and produce the meat that will feed other millions on the other side of the world, is at last awake.

All at once Western Canada has thrown off its lethargy, has sprung into a new life of which it is fully conscious, and others, too. All at once people everywhere seem suddenly to have realized that Western Canada has a healthful and not unpleasant climate, that its plains are fertile, that it is well adapted to settlement, and that thousands are pressing in to settle it. All at once there has begun to flow into Western Canada a steady stream of emigration from Great Britain and the United States, the latter largely made up of that typical American element which always wants to move into the new country just beyond.

As a result of the wonderful development now taking place, one of the most important economic crises which the country has ever seen, took place during the year 1901, when the railway companies found themselves unable to remove the huge crop harvested within the usual period. The high yield in all classes of grain throughout the Territories was chiefly responsible for this state of affairs, but an examination of crop area statistics reveals the fact, that the area under cultivation is increasing annually to such an extent, that with merely average crops in future, the production is still bound to exceed largely that of previous years. The area under wheat in the Territories in 1898 was 307,500 acres; in 1899, 363,500; in 1900, 413,000; in 1901, 508,500, and in 1902, 626,000 acres, which means that the area under wheat has more than doubled in extent during the past four years. The increase in the area under oats has been even more marvellous. The oat area in 1898 covered only 105,000 acres; in 1899 it increased to 135,000; in 1900, 175,000; in 1901, 229,500, and in 1902, over 310,000 acres. The area under this cereal has, therefore, trebled since 1898. Probably never in the history of the world has any new country been developed on such a magnificent scale.

The Canadian North West is a country of vast extent, only sufficiently developed to reveal the immensity and possibilities of its potential wealth. Less than a short twenty-five years ago its white population could be numbered in four figures. To-day, immigration is pouring in at the rate of a hundred thousand souls per annum. A huge stream of humanity fleeing from the grinding competition of the Old World and Eastern States and Provinces, seeking free or cheap lands and the wider scope of a new field of labor.



## BOUNDARIES AND POLITICAL DIVISIONS.

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The organized Canadian North West Territories are bounded on the east by the Province of Manitoba, and on the west by the Province of British Columbia, on the south by the States of Montana and North Dakota, and on the north by the Territory of Athabasca. These territories consist of three provisional districts, namely, Alberta, Saskatchewan and Assiniboia. The District of Alberta covers an area of 100,000 square miles; Saskatchewan, 114,000 square miles; and Assiniboia, 90,340 square miles; making a total of 304,340 square miles.

### SYSTEM OF LAND SURVEY.

The lands are laid off in townships, practically square in form, bounded on the east and west sides by true meridians of longitude and on the north and south by chords of the circular parallels of latitude. The tiers of townships are numbered from one upwards, commencing at the International boundary, and lie in ranges from east to west, numbered in regular order westward from certain standard lines called principal meridians. Each township is subdivided into thirty-six sections containing 640 acres, more or less, divided by road allowances 66 ft. in width. Each section is in turn divided into four quarter sections of 160 acres each, which are designated the south-east, the south-west, the north-west and the north-east quarters. The corners of each division are marked on the ground by suitable posts, rendering it an easy matter to locate any particular piece of land.

### CLIMATE.

There are two questions which, in one form or another, the prospective settler is sure to ask, and which he must have satisfactorily answered before finally making his choice.

1. Is the climate a healthy one?
2. Is the winter severe? the summer hot?

If asked such questions in relation to the North West Territories of Canada, we can truthfully reply to them categorically as follows:—

1. Unquestionably so. The open nature of the country, clear, dry atmosphere and abundance of bright sunshine, its elevation (varying from 1,402 feet to 3,389 feet above the sea level) and the fresh breezes which blow across its plain, all tend to make it one of the healthiest countries in the world. There is an entire absence of malaria, and there is no disease peculiar to the country. The western portions of the country have attained a considerable reputation as health resorts, particularly for persons of consumptive tendencies, and many who have found life a burden through delicacy of constitution in other countries have "renewed their youth like the eagle" by a few months' residence in our beneficent climate.

The following statement by Dr. F. H. Mewburne, one of the leading practitioners of the Territories, explains itself. The doctor refers particularly to Southern Alberta, but the conditions are precisely the same in Western Assiniboia:—

"Speaking of the climate of Southern Alberta in relation to health, I take pleasure in submitting the following, based upon fifteen years' medical experience.

"Given a light, dry atmosphere, a dry, quick absorbing soil, a small rainfall, moderate elevation above the sea level, a great amount of sunshine and you have the essentials of a health giving climate. Such essentials the climate of Southern Alberta possesses in a marked degree.

"Physicians who have practiced in Southern Alberta are impressed by the following facts:—

"1. That acute lung troubles, such as pneumonia and bronchitis are rare.

"2. That very few, if any, cases of consumption develop within the country, while great improvements and cures result in such cases brought into the country.

"3. That the infectious diseases of childhood by do occur, are of a mild type, and are very amenable treatment.

"That typhoid fever in all its varied forms is generally absent.

"Such facts go to prove the healthfulness of the climate without question."

2. Is the winter severe? At times and at places it is. That is to say, between about the 15th of December and the 15th of March, the thermometer frequently registers a temperature considerably below zero, as may be seen by the subjoined table. At this period also storms, known locally as "blizzards," occasionally occur. During such, however, very low temperatures rarely prevail. Hav-

ing stated this, the worst has been said. With the aid of comfortable houses and proper clothing and furs, the North West settler defies the winter at its worst.

The winter in the ranching section, Southern Alberta and Western Assiniboia, the portions of the Territories chiefly dealt with in this publication, is a season of bright, cloudless days, infrequent and scanty snowfalls and frequent and prolonged breaks of warm weather, heralded by the chinook wind. Wagons are used during the entire year, and it is only in occasional seasons that sleighs are necessary for brief periods. In January and the early part of February there are sometimes short periods of cold, sharp weather. Heavy snowstorms have at times covered the prairie more than a foot deep, but this is exceptional. The winter generally breaks up in the early part of March, with a grand blowing of warm wind from the west, followed by a period of from one to three weeks of warm, bright weather, the beginnings of Southern Alberta's spring. The earliest spring flowers appear in March. In April false indigo, shooting stars and violets, and in May the evening primroses, vetches and lupines are in their glory. May is generally fine, warm and bright, June and earlier part of July rainy, the remainder of July, August, September, October and generally November, warm and dry. The summer, July to September, is characterized by hot days, relieved by a never failing breeze, and cool nights, but the warm golden days of autumn, often lasting well into December, are the glory of the year. The grand characteristic of the climate as a whole and the one on which the weather hinges, is the chinook wind, so called because it blows from the region formerly inhabited by the Chinook Indians, on the banks of the lower Columbia river. It is a warm, dry wind, blowing from the mountains across the plains, and its principal characteristic is its power of rapidly melting the snow, or almost, it might be said, of drying it up, as frequently no water runs from it. To it is due the pleasing dryness of every hollow on the prairie, even the deepest coulees, or prairie ravines. The effect of this wind in winter may be described as little short of miraculous, in its clearing away of the snow, always scanty in amount, with amazing celerity. A gale from the north will blow for a day or two, powdering the prairie with drifted snow, and at times sending the cattle, horses, and wild game to the shelter the coulees, or prairie ravines, afford. Then the wind lulls, and a breeze from the west springs up. It is the warm chinook, in balmy contrast to the biting eastern or northern snow gales. Generally a few hours suffice for the disappearance of all traces of the snow, and the cattle and horses are once more dispersed over the ranges, feed-



CALF BRANDING ON THE ROUND-UP, SOUTHERN ALBERTA.

Photo by Steele & Co., Ltd.



ing on the hay provided by nature for the herds and flocks during winter in this favored land.

The same cause which obviates the inconvenience which might under other circumstances arise from low temperature in winter, namely, the dryness of the atmosphere, also operates in the settler's favour in the summer time, permitting of a rapid radiation of the heat communicated to the land by the intensely powerful rays of the sun in our cloudless skies. It thus happens that however extreme the temperature may be during the day (and as will be seen from the subjoined table, the thermometer sometimes rises to over 106° in the shade) the nights are always cool, allowing of perfect rest. Of course, such extremely high temperatures are exceptional, but it will be seen that temperatures of over 100° in the shade are by no means uncommon. Here again the dryness of the atmosphere is individually helpful, by rendering the cooling action of perspiration, Nature's great safeguard, most effective. The writer is not aware that any case is on record of deaths in the Territories directly attributable to excessive heat, while, on the other hand, not long ago, we read in our newspapers that no fewer than 250 persons perished in one day in the City of New York from excessive heat. The highest temperature recorded there at that time was only 99.8°.

Tables are subjoined shewing the highest, lowest and the mean temperatures, during the whole year for the last seven years, and the total annual precipitation for the last ten years for four well distributed points throughout the ranching section of the Territories.

#### HIGHEST TEMPERATURES.

STATION	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Swift Current	1896	50.0	50.0	52.0	68.0	77.8	94.0	97.0	88.0	82.0	81.6	44.0	48.0
"	1897	40.0	34.0	..	78.6	90.0	95.0	87.5	96.0	85.0	76.4	66.0	40.0
"	1898	33.0	41.3	41.5	73.0	79.5	95.0	98.5	93.2	84.0	68.0	48.0	48.0
"	1899	41.0	41.5	41.0	67.0	72.0	83.0	98.0	80.0	81.0	76.0	60.0	47.5
"	1900	59.0	40.0	66.0	74.5	90.0	104.0	95.0	95.0	80.0	70.0	59.0	..
"	1901	48.0	44.0	50.0	83.0	91.0	..	92.0	91.0	83.0	72.0	..	44.6
"	1902	51.0	42.0	47.0	64.0	87.0	80.0	88.0	88.0	82.0	78.0	50.0	39.0
Medicine Hat	1896	52.6	59.5	60.4	74.4	79.5	98.3	100.7	90.2	89.2	84.5	53.6	52.6
"	1897	49.7	37.8	..	61.7	90.7	85.7	92.8	99.5	90.0	77.8	67.2	46.8
"	1898	39.9	48.3	43.8	77.8	80.8	94.8	101.8	95.8	86.8	67.8	58.8	59.8
"	1899	46.3	49.8	43.3	74.1	78.2	90.6	97.8	82.6	86.6	72.0	..	50.8
"	1900	62.0	45.0	63.8	80.5	86.0	106.6	101.8	97.0	81.3	75.8	68.8	53.8
"	1901	44.8	53.0	..	80.4	88.6	78.6	..	..	87.8	76.8	60.8	54.8
"	1902	57.3	45.4	53.8	70.5	86.5	83.0	95.0	93.0	85.0	79.0	56.0	41.0

## HIGHEST TEMPERATURE—Continued.

STATION	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Calgary	1896	51.0	59.0	55.3	68.3	73.3	94.0	95.0	85.3	85.0	73.3	47.3	48.8
"	1897	45.5	40.3	..	75.8	88.0	78.8	86.3	90.3	79.6	73.3	59.0	44.0
"	1898	44.3	44.8	42.3	76.0	76.0	84.3	91.0	87.0	83.3	68.0	48.0	46.0
"	1899	49.0	55.0	49.0	70.0	71.0	77.0	80.0	78.0	77.0	74.5	58.0	56.0
"	1900	50.0	50.0	60.0	76.0	70.0	92.0	85.0	90.0	77.0	71.0	64.0	50.0
"	1901	45.0	57.0	55.0	72.0	86.0	77.0	80.0	85.0	75.0	74.0	60.0	60.0
"	1902	54.0	46.0	50.0	65.0	82.0	76.0	84.0	81.0	75.0	74.0	49.0	47.0
Macleod	1896	52.0	61.0	60.0	71.0	74.0	98.0	102.0	89.0	89.0	77.0	54.0	63.0
"	1897	..	46.0	..	75.0	9.0	80.0	87.0	96.0	84.0	82.0	65.0	46.0
"	1898	46.0	50.0	49.0	76.0	70.0	85.0	98.0	92.0	83.0	62.0	50.0	56.0
"	1899	50.0	50.0	47.0	66.0	71.0	83.0	96.0	80.0	83.0	80.0	65.0	50.0
"	1900	58.0	46.0	64.0	77.0	81.0	98.0	94.0	90.0	83.0	72.0	65.0	56.0
"	1901	51.0	58.0	61.0	75.0	84.0	79.0	94.0	94.0	83.0	77.0	60.0	53.0
"	1902	58.0	51.0	54.0	65.0	84.0	81.0	89.0	87.0	80.0	78.0	..	..

## LOWEST TEMPERATURES.

STATION	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Swift Current	1896	-32.0	-22.0	-6.0	15.6	32.0	40.0	40.0	32.0	28.0	20.9	-30.0	-20.0
"	1897	-40.0	-20.0	..	20.0	36.0	33.4	37.5	38.0	28.0	14.5	-32.0	-30.0
"	1898	-12.8	-20.0	-20.0	2.0	26.0	34.0	40.8	41.3	28.0	16.0	-18.0	-19.0
"	1899	-33.5	-41.5	-22.5	-5.3	22.3	33.0	44.0	36.5	27.5	12.3	20.0	-15.0
"	1900	-16.5	-35.0	-18.0	23.5	28.0	32.0	40.0	39.0	23.0	13.0	-22.5	..
"	1901	-29.0	-18.0	-12.0	17.0	23.0	..	43.0	38.0	24.0	17.0	..	-27.0
"	1902	-23.0	-28.0	-12.0	16.0	30.0	33.0	41.0	32.0	25.0	18.0	-6.0	-22.0
Medicine Hat	1896	-35.0	-19.6	-25.0	8.0	31.8	38.5	36.0	38.0	25.0	16.5	-36.0	-23.0
"	1897	-50.0	-22.5	..	20.0	33.0	35.5	45.1	33.8	28.0	10.0	-26.0	-31.0
"	1898	-16.0	-25.0	-20.0	10.0	28.0	31.4	44.1	49.1	30.0	14.0	-11.0	-23.0
"	1899	-26.0	-45.0	-27.0	-16.0	12.8	39.0	47.6	37.0	32.0	..	..	-25.0
"	1900	-18.0	-34.9	-16.1	26.8	33.0	37.0	44.1	32.0	17.5	18.5	-31.5	-9.0
"	1901	-32.0	-17.0	..	15.5	27.7	31.5	..	..	26.5	23.1	7.0	-13.0
"	1902	-32.0	-18.0	-13.5	15.7	22.7	34.2	44.2	33.2	27.7	17.7	-3.4	-29.8
Calgary	1896	-34.2	-21.2	-34.2	13.5	22.0	33.5	34.0	36.5	23.0	15.0	-28.8	-18.3
"	1897	-37.2	-9.7	..	18.5	28.5	20.8	39.0	34.5	26.0	13.0	-25.7	-26.0
"	1898	-8.0	-20.0	-18.0	4.0	22.0	35.0	38.0	35.5	23.5	15.0	-23.8	-31.0
"	1899	-25.0	-40.0	-20.0	-14.0	12.0	34.0	35.0	30.0	32.0	4.0	14.0	-24.0
"	1900	-15.0	-27.0	-22.0	21.0	28.0	30.0	36.0	30.0	17.0	11.0	-30.0	-3.0
"	1901	-35.0	-18.0	-10.0	13.0	20.0	32.0	37.0	35.0	23.0	18.0	-5.8	-3.3
"	1902	-30.0	-18.0	-24.0	14.0	25.0	29.0	38.0	31.0	24.3	22.0	-16.0	-26.6
Macleod	1896	-36.0	-17.0	-31.0	8.0	30.0	34.0	41.0	41.0	29.0	19.0	-33.0	-22.0
"	1897	..	-13.0	..	23.0	31.0	31.0	40.0	38.0	30.0	6.0	-27.0	-27.0
"	1898	-13.0	-18.0	-17.0	14.0	25.0	34.0	43.0	44.0	32.0	14.0	-19.0	-30.0
"	1899	-31.0	-36.0	-16.0	-10.0	15.0	38.0	41.0	37.0	31.0	12.0	16.0	-25.0
"	1900	-16.0	-32.0	-17.0	22.0	32.0	33.0	43.0	30.0	20.0	13.0	-29.0	-2.0
"	1901	-30.0	-25.0	-15.0	15.0	22.0	31.0	38.0	40.0	28.0	22.0	2.0	-4.0
"	1902	-30.0	-22.0	-27.0	15.0	32.0	31.0	42.0	31.0	28.0	21.0	..	..

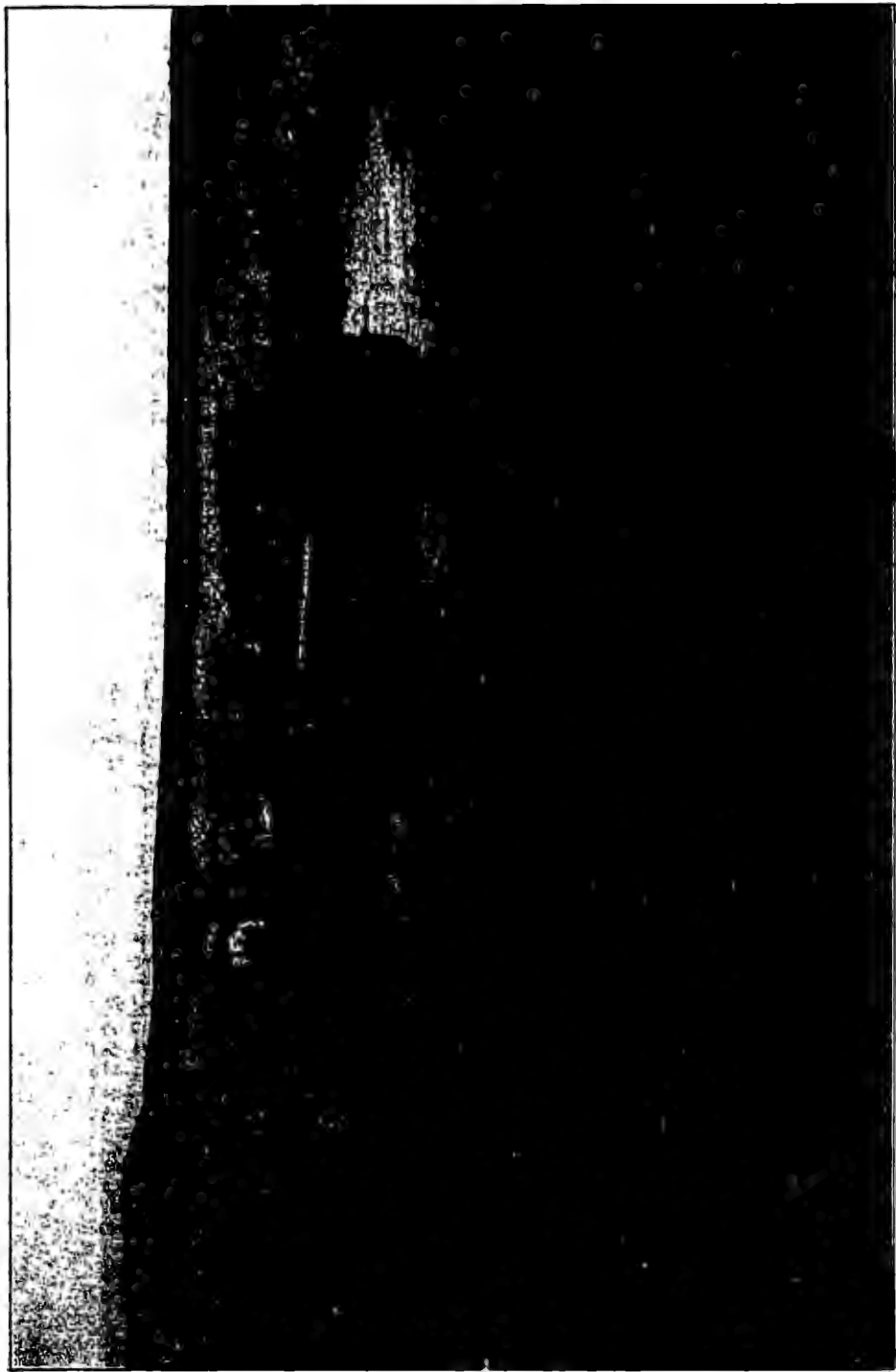


Photo by Steele & Co. Ltd. NEAR OXLEY RANCH-RANCH HORSES, GENERAL ROUND-UP, SOUTHERN ALBERTA.

## MEAN TEMPERATURES.

STATION	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Swift Current.	1896	- 6.3	21.6	20.4	39.1	50.1	62.8	69.2	61.6	50.2	42.7	4.0	23.8
"	1897	0.8	10.5	..	43.3	58.5	61.2	65.5	67.2	58.1	43.7	15.2	14.7
"	1898	17.2	12.3	13.4	36.4	52.0	59.9	66.3	65.9	54.4	37.3	22.0	17.7
"	1899	7.1	- 2.5	4.9	36.2	47.5	57.9	65.9	59.4	55.0	38.2	39.8	16.8
"	1900	21.7	4.2	23.1	48.7	57.5	65.8	66.6	62.9	51.4	43.6	19.8	..
"	1901	9.3	9.4	28.2	43.5	50.7	..	67.5	65.7	46.8	48.3	50.8	19.5
"	1902	16.9	13.0	25.4	40.0	54.8	55.2	62.7	63.1	52.2	44.1	23.3	9.9
Medicine Hat.	1896	9.2	25.3	23.9	40.6	51.2	65.0	71.2	65.2	53.4	45.2	2.0	26.5
"	1897	11.5	11.4	..	47.4	62.0	61.5	65.8	69.9	58.8	45.4	15.4	18.0
"	1898	19.6	16.0	17.6	41.9	54.8	61.9	69.3	69.4	56.6	40.5	23.2	20.5
"	1899	13.0	2.2	8.8	38.3	49.6	60.6	68.1	61.3	59.1	..	..	22.0
"	1900	24.6	9.0	28.7	50.5	58.3	67.0	69.0	63.4	53.4	44.9	23.6	31.3
"	1901	15.4	14.9	..	45.1	58.7	55.0	..	..	49.6	50.8	32.9	27.3
"	1902	20.4	16.0	31.2	44.2	56.0	56.6	64.4	66.5	56.2	47.9	26.3	11.8
Calgary .....	1896	3.7	24.3	19.3	36.3	44.5	58.5	64.6	59.6	49.3	41.3	2.4	26.1
"	1897	12.6	15.9	..	43.7	57.9	57.0	59.2	62.7	52.4	42.4	12.3	18.2
"	1898	20.9	14.5	17.8	38.2	49.1	56.4	61.8	62.6	52.3	36.9	21.7	21.4
"	1899	14.9	2.4	8.8	33.8	44.4	53.2	60.3	53.7	53.6	36.7	37.1	19.2
"	1900	22.1	11.4	28.2	44.1	51.8	57.6	58.2	55.1	47.8	38.1	20.0	27.8
"	1901	16.6	15.6	30.4	38.7	52.5	50.4	58.9	59.3	45.3	47.9	28.4	26.3
"	1902	20.3	15.2	25.9	39.7	49.0	49.4	58.1	58.1	48.7	45.0	21.5	12.4
Macleod .....	1896	14.1	32.8	24.8	41.4	51.2	64.0	69.6	63.9	52.2	49.7	4.7	33.0
"	1897	..	24.4	..	46.2	60.2	60.6	65.4	71.3	57.5	47.6	17.9	21.8
"	1898	28.7	22.2	19.3	43.1	51.2	58.3	69.5	67.2	56.9	40.7	28.2	25.5
"	1899	18.6	6.2	14.3	37.4	49.5	57.1	65.2	57.5	57.5	41.4	42.6	21.2
"	1900	28.0	15.0	30.6	47.1	55.4	62.4	63.5	59.9	51.8	43.2	25.7	34.2
"	1901	19.4	17.5	33.8	41.1	55.2	52.1	63.8	64.4	46.6	50.5	35.3	28.8
"	1902	23.7	19.7	29.4	41.6	52.2	54.1	62.6	63.0	53.7	48.0	..	..

## PRECIPITATION (INCHES)

STATION	YEAR	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL	ANNUAL AVERAGE 12 YEARS
Swift Current	1896	0.72	1.04	0.42	0.93	2.90	1.40	0.26	2.68	2.05	0.02	1.38	0.28	14.11	16.29
	1897	0.57	0.84	0.24	0.08	0.26	0.83	0.27	1.28	2.60	0.88	1.50	0.80	16.24	
	1898	0.57	0.82	2.02	0.60	1.31	2.56	2.81	1.79	0.90	1.33	0.41	0.13	15.25	
	1899	0.02	0.30	1.31	0.25	2.40	3.17	3.95	4.75	0.64	1.07	0.59	0.33	19.38	
	1900	0.14	0.36	0.57	0.42	2.49	1.38	2.42	2.75	2.48	0.47	0.46	0.66	14.60	
	1901	1.32	0.50	0.30	0.42	1.99	3.24	4.20	0.56	3.84	0.40	0.22	0.50	17.64	
	1902	0.17	0.88	1.38	0.18	5.07	4.47	2.28	1.44	0.73	0.08	0.60	0.56	17.64	
Mo. Av. 12 Yrs.		0.65	0.70	0.86	0.75	2.13	2.71	2.82	1.95	1.49	0.76	0.78	0.78		
Medicine Hat	1896	1.38	1.24	1.01	2.26	3.10	1.59	1.11	1.79	1.74	0.55	2.12	0.29	18.18	16.31
	1897	0.74	0.41	0.52	0.39	0.59	5.62	1.65	0.40	2.15	1.26	3.11	0.43	17.27	
	1898	0.45	1.07	1.02	1.42	0.48	1.51	2.45	2.22	1.07	1.71	1.23	0.67	15.90	
	1899	1.12	1.13	1.17	0.87	3.32	2.60	3.79	4.60	1.66	0.80	0.31	0.91	22.28	
	1900	0.47	1.04	1.05	1.25	1.62	2.26	2.67	5.65	1.92	1.02	1.95	1.15	22.05	
	1901	1.68	1.40	0.52	0.11	6.29	4.01	2.82	0.26	2.41	0.45	0.55	0.30	20.80	
	1902	0.98	0.65	0.20	0.10	3.18	3.17	2.04	0.80	0.22	0.39	1.15	0.80	13.68	
Mo. Av. 12 Yrs.		0.86	0.95	0.84	0.82	1.97	2.73	2.29	1.88	1.41	0.66	1.24	0.65		
Calgary	1896	0.94	1.67	1.04	0.52	1.66	1.63	1.21	1.55	1.38	0.70	1.98	0.33	14.64	17.12
	1897	0.53	0.44	0.75	0.36	0.32	0.62	5.41	1.91	1.01	1.05	2.14	0.60	21.14	
	1898	0.20	0.90	1.55	0.43	1.97	3.16	3.65	2.00	0.50	0.45	0.55	0.43	15.79	
	1899	1.02	0.19	1.16	0.32	6.01	3.42	2.21	9.64	0.94	1.25	0.39	0.44	26.99	
	1900	0.23	0.50	0.47	1.77	1.33	3.33	2.36	1.41	4.57	0.97	1.28	0.07	17.99	
	1901	0.26	0.91	0.99	0.64	1.82	6.71	5.33	0.46	2.88	0.09	0.41	1.48	21.98	
	1902	0.30	0.43	0.53	0.58	6.37	9.45	5.02	5.65	1.51	0.71	0.80	0.55	31.90	
Mo. Av. 12 Yrs.		0.49	0.54	0.67	0.61	2.32	3.49	3.02	2.31	1.52	0.62	0.98	0.48		
Macleod	1896	0.15	0.53	0.70	0.40	2.74	0.48	1.27	1.99	2.23	0.44	1.70	0.10	12.73	13.61*
	1897	0.10	0.10	0.58	1.20	0.00	4.20	2.16	0.15	0.92	0.33	2.40	0.63	12.77	
	1898	0.30	0.53	1.00	0.27	1.59	1.90	1.57	4.04	0.85	0.58	0.15	0.80	13.58	
	1899	1.08	0.25	1.10	0.70	3.43	1.92	2.13	2.40	1.75	1.69	0.05	1.26	17.76	
	1900	0.13	0.70	0.43	0.60	0.81	0.28	2.67	0.64	2.39	0.78	0.60	0.05	10.08	
	1901	0.26	0.58	0.35	0.80	2.06	4.31	1.11	0.43	1.91	0.04	0.45	0.50	12.93	
	1902	0.48	0.55	0.63	0.20	2.65	2.90	1.20	0.22	0.51	0.04	..	..	..	
Mo. Av. 7 Yrs.		0.36	0.46	0.68	0.59	1.90	2.28	1.46	1.35	1.33	0.56	0.79	0.29		

\* Six years.

SYSTEM OF GOVERNMENT AND TAXATION.

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In addition to the Federal Government at Ottawa, which has jurisdiction over the public domain, the Indians and the natural resources of the Territories, and administers customs, postal and other national services, there is in the Canadian North West Territories, as in the Provinces composing the Dominion of Canada, a Legislative Assembly consisting of thirty-five members, which exercises control over all local matters. The Executive Council at present consists of three members, each having a seat in the Legislature.

Government in the Territories is distinctly by the people. Any person who is a British subject, either by birth or naturalization and who has attained the full age of twenty-one years, has resided in the North West Territories for at least twelve months, and in the electoral district for at least three months, is entitled to vote, both in Territorial and in Dominion elections.

The public service of the North West Territories is divided into the following departments: Agriculture, Education, Public Works, Attorney-General's, Secretary of State's and Treasury. The Legislature expends money for public works, administration of justice, education, agricultural societies, encouraging the importation of pure-bred stock, agricultural experimental work, collection of statistics, farmers' institute work, destruction of noxious weeds and animals, aid to public hospitals and charities, and for the care of deaf and dumb and incurable patients.

No expensive system of municipal or county organization has been introduced into the Canadian North West. There is instead a simple and economical law in operation, known as The Local Improvement Ordinance, under which districts of varying area are organized. Each quarter section of land, consisting of 160 acres, owned or occupied, is taxed to the extent of \$2.00 to \$2.50 per annum. The only other tax levied is that for schools. The total tax for all purposes on a quarter section seldom exceeds \$7.00 to \$8.00 per annum, and in those portions of the country where the settlers have not yet decided to form school districts the total taxation per quarter section is only from \$2.00 to \$2.50 per annum.

## GRAZING REGULATIONS.

Leases for grazing purposes are issued for a term of twenty-one years, and the rental is at the rate of two cents an acre per annum, payable half-yearly in advance.

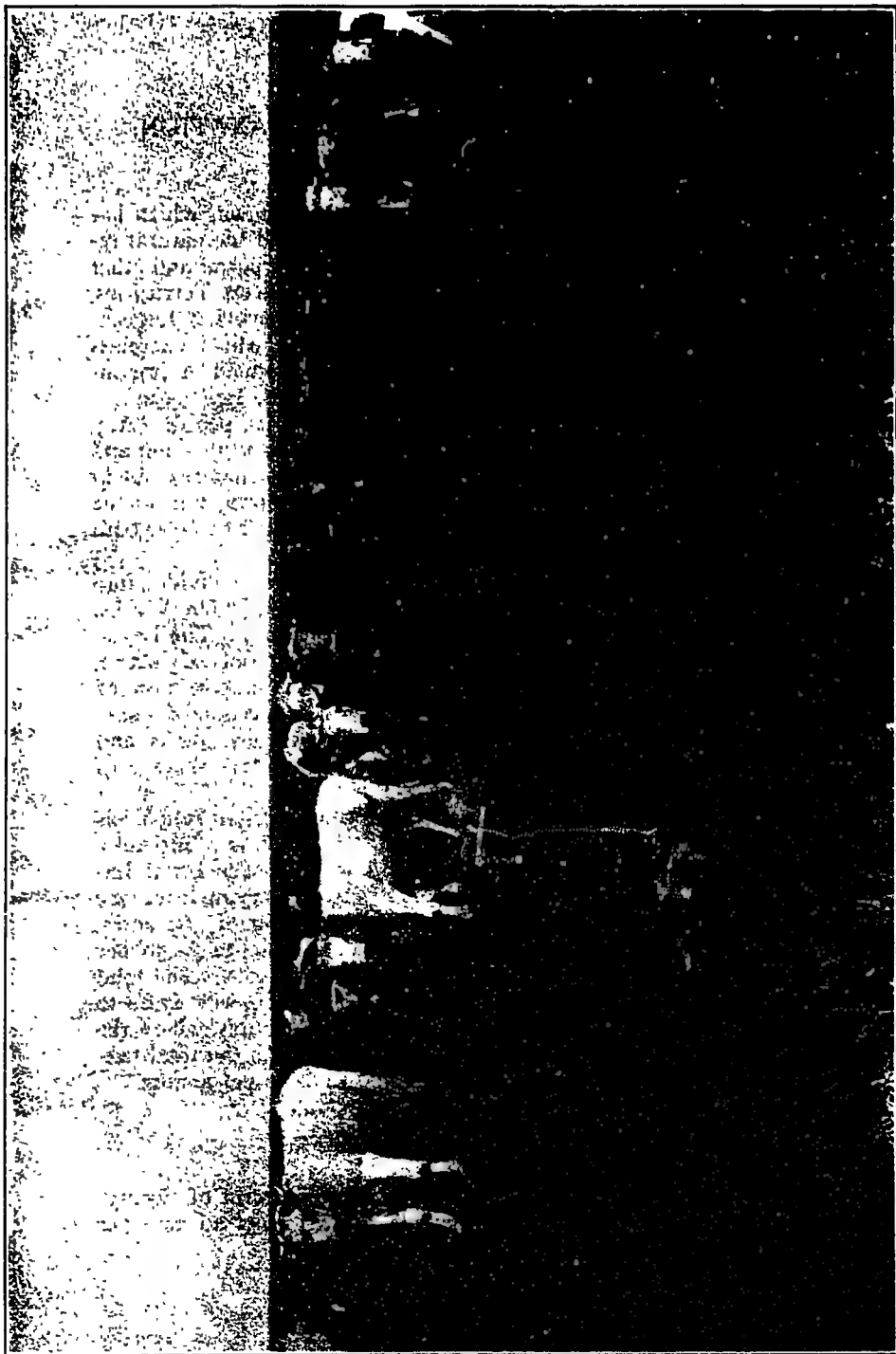


Photo by Steele & Co., Ltd.

CATTLE ON THE RANGE, SOUTHERN ALBERTA.

Lands included in a grazing lease may be withdrawn for homestead entry, sale or railway purposes, but no rental is charged on such lands from the date upon which they are withdrawn from the lease.

Grazing leases of school lands in the Province of Manitoba may be issued for a term of five years, at an annual rental of six cents an acre, payable in advance, but the department may terminate the lease at any time by giving the lessee three months' notice.

Grazing leases of school lands in the North West Territories are for a term of five years, and the rental is at the rate of four cents an acre per annum, payable in advance. This lease may also be terminated at any time by giving the lessee three months' notice.

Lessees of school lands are not allowed to break up or cultivate any portion of the lands leased.

A lessee of grazing lands is not entitled to the hay thereon, but he may, upon application to the agent of Dominion Lands, obtain each year the first permit to cut on his leasehold whatever quantity of hay he may require for his own use, free of dues, the department reserving the right to issue permits to other applicants thereon.

A settler in the vicinity of unoccupied Dominion Lands may obtain a lease to cut hay on an area thereof not exceeding forty acres. The term of the lease is five years and the rental twenty-five cents an acre per annum payable in advance.

Leases for hay purposes of not more than 640 acres and not less than 160 acres of school lands in the North West Territories may be issued upon payment in advance of the rental at the rate of twenty-five cents an acre per annum.

Applications for permits to cut hay are made after the first day of January in each year to the agent of Dominion Lands in whose agency the land containing the hay is situated, and permits are issued on and after the first day of April following, upon payment of a fee of fifty cents and the dues hereinafter prescribed.

If before the first day of April more than one application is received for a permit covering the same tract of land, the agent, if he cannot arrange a division of the land to suit the applicants, may post a notice in his office calling for tenders for the purchase of the hay, and the permit is awarded to the person offering the highest cash bonus.

No hay shall be cut prior to a date to be fixed each year by the Minister of the Interior.

The dues chargeable for permits to actual settlers who require the hay for their own use are ten cents an acre or ten cents per ton, and to all other persons the rates are fifty cents an acre or fifty cents per ton, payable in advance.



## EDUCATIONAL FACILITIES.

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Fertility of the soil, nature and extent of grasses and grazing, climatic conditions and healthfulness are valuable and interesting subjects for consideration by any person who contemplates removing to another country for the purpose of making for himself a home. These subjects pertain more especially to the physical requirements of mankind, but in this day and age of the world man deems his spiritual and mental welfare entitled to as careful and serious consideration.

The good citizen who has concluded for various reasons to seek some other country in which to make his future home, will give due attention to each of the foregoing features and will also enquire particularly into the customs and conditions of the people, the laws by which they are governed, and the religious and educational advantages with which they are provided. He is an industrious man; hence he wants to live in a busy, thriving community. He is a law-abiding man; therefore seeks that country in which the laws are wise, just, humane and are faithfully and judiciously administered. He is a good man; therefore desires to associate with people who have a proper regard for morality, integrity, and Christian duty. He is an intellectual man; consequently he knows the value of education, as the surest means of aiding mankind in the pursuit of happiness and securing to each individual the blessings of liberty.

The public school system established in the Territories is well abreast of the times. Its management is vested in one of the Ministers of the Government, assisted by an Educational Council of five appointed members. The organization of school districts is optional with the settlers. Districts formed cannot exceed five miles in length or breadth and must contain at least four actual residents and twelve children between the ages of five and sixteen. In almost every locality where these conditions exist schools have sprung up. At present there are nearly a thousand districts in existence, which are being added to at the rate of over one hundred every year. The cost of maintaining schools is moderate owing to the liberal assistance given by the Government. Taxes vary from \$3.00 to \$8.00 per quarter section, while the Government grants paid to each school yearly amount to from \$300.00 to \$350.00. Each teacher employed must have a certificate of a recognized standard of education issued by the Government, and, in addition, must present evidence of having received Normal School training. A thorough system of inspection has been inaugurated, each school being usually visited twice during

the year. 'The inspectors are not elected, but are appointed by the Government on account of their special aptitude for the duties they have to perform. In the schools of the larger towns the higher branches of study are taught and pupils are prepared for University matriculation and teachers' certificates. Uniform Government examinations for teachers' certificates are held annually at convenient points. The people of the Territories take a keen interest in their schools. The Government has always given the school problem its first consideration, with the result that a system has been established which leading authorities admit provides as practical an education as can be obtained in the older provinces of Canada or in the United States.

Summed up, the leading features of the Territorial system of education are:—

1. Government control, freed from political interference.
2. Liberal Government assistance.
3. Comparatively light taxation.
4. A very practical course of studies.
5. Thorough supervision by competent inspectors.
6. Trained teachers and uniform Government examinations.

In addition to the public schools the Roman Catholic church maintains convent schools at various points throughout the Territories where girls of all ages and religious denominations receive an excellent education at a very small cost. These institutions conform to the public school standard and are under the same system of Government inspection as the latter.

Letters of incorporation have also been granted to the Western Canada College, which is to be instituted at the City of Calgary, and which is being enthusiastically supported by ranchers and townspeople alike all through the westerly portion of the Territories. It is hoped that within a short time this college will enable residents of the Territories to give their children a finished education without incurring the expense of sending them to older seats of learning in Eastern Canada and elsewhere.

Arrangements are also being made at the present time for the establishment of a college at Edmonton, to be known as Macdougall College.

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## PHYSICAL DIVISIONS.

For the purpose of discussing the advantages of the Territories for live stock husbandry, the country may be roughly divided into



two great sections, namely, the *farming section* and the *ranching section*. The former consists of Eastern Assiniboia, Saskatchewan, and Northern Alberta, the latter comprises Western Assiniboia and Southern Alberta. It is not, however, to be supposed that there is no farming done in the ranching section, or ranching in the farming section. The two divisions outlined merely present somewhat varying climatic conditions, necessitating different methods of managing live stock.

The most important distinction between these two great natural divisions is the lesser degree of humidity prevalent in the ranching section, which causes the prairie grasses to suspend growth early in the autumn when they are subjected to a regular process of curing on the stalk during the bright, sunny fall season. Herein lies the explanation of what, to the uninitiated, is somewhat of a mystery, namely, that cattle, horses and sheep have been able to range out all winter on the snow-covered prairies of the Canadian North West Territories and apparently keep in good thrifty condition. This peculiarity was first brought into prominence during the early days of settlement through the medium of the buffalo, which thrived admirably all winter upon the cured grasses. Survey parties and other travellers were also in the habit of abandoning horses that "played out." Sick, injured, footsore and poor, these animals were left to live as best they might, or become a prey for the wild beasts of mountain and plain. That many of them lived through the winter following and were fat in the early springtime, proved a revelation to the man accustomed to long and expensive winter feeding, and forced his attention to the fact that our grasses must possess nutritious qualities of marvelous worth. When the white man came to stay, he brought vast herds of cattle, that thrived upon the open ranges without care and attention, on the strong nutritious grasses. The bounty of nature, however, led in many cases to the adoption of wasteful and extravagant methods by the inexperienced, and the consequent failures caused a depression in the industry for some time. In more experienced and careful hands it has regained its status. Ranchers have learned that some food must be provided for severe winters and that it is not advisable to carry larger herds of cattle than they can properly handle. Ranches have been settled and irrigated, hay and other feed provided, thus rendering the business a safe and steady vocation and one that is rapidly giving our people wealth and independence.

### PRAIRIE GRASSES.

"Grass is king. It rules and governs the world. It is the very

foundation of all commerce; without it the earth would be a barren waste, and cotton, gold, and commerce all dead."—*Solon Robinson*.

The pride of the Canadian North West Territories is its wild grasses, and nowhere can better quality in greater quantity be found. Not only good as to kind, but more nourishing because of the excellence of the soils on which they are grown. The abundance of sunshine also tends to make the grasses more nutritive. Nearly a hundred species of true grasses and almost as many sedges and rushes are native, being found intermixed throughout prairie and slough, from a few inches to six feet and over in height. All these go to the making of the ranges so justly celebrated for the production of beef and mutton.

"The fact that such species as *Poa caesia*, *pratensis*, *serotina* and *tenuifolia* are found shows clearly that Canada wherever denuded of forest is the land of butter, cheese and beef for future generations."—*Prof. Macoun*.

In the following list are mentioned the grasses most commonly found on our ranges:—

#### UPLAND OR PRAIRIE GRASSES.

Beard grass (*Andropogon scoparius*)—Sandy soil.

Sweet grass (*Hierochloa borealis*)—Thrives best on damp prairie.

Feather grass (*Stipa comata*)—Dry prairie.

Spear grass or Northern Buffalo grass (*Stipa spartea*)—Throughout the prairie.

Green stipa (*Stipa viridula*)—Prairie.

Mountain Timothy (*Phleum alpinum*)—Foothills.

Drop seed grass (*Sporobolus cuspidatus*)—Prairie.

Tickle grass (*Agrostis scabra*)—Damp prairie

Oat grass (*Avena pratensis*)—Foothills.

Grama grass (*Bouteloua oligostachya*)—Prairie.

Western June Grass (*Koeleria cristata*)—Prairie.

June grass. Blue grass (*Poa pratensis*)—Prairie.

Slender-leaved Meadow grass (*Poa tenuifolia*)—Prairie and foothills.

Sheep fescue (*Festuca ovina*)—Prairie and foothills.

Bunch grass (*Festuca scabrella*)—Prairie and foothills.

Wild Brome (*Bromus pumpellianus*)—Rich prairie and hill-sides.

Bearded wheat grass (*Agropyrum caninum*)—Prairie.

Northern wheat grass (*Agropyrum dasystachyum*)—Prairie and foothills.

Colorado Blue-stem (*Agropyrum glaucum v. occidentale*)—Prairie.

Western Rye grass (*Agropyrum tenerum*)—Prairie.

Wild barley. Skunk-tail (*Hordeum jubatum*)—Saline soil.

Downy wheat grass (*Elymus dasystachys*)—Foothills.

Canadian Lyme grass (*Elymus Canadensis*)—Prairie and hill-sides.

## LOWLAND AND WATER GRASSES.

Beckman's grass (*Beckmannia erucaeformis v. uniflorus*)—In water and wet spots.

Cord grass (*Spartina gracilis*)—Salty marshes.

Reed Canary grass (*Phalaris arundinacea*)—Marshes and along streams.

Drop seed Timothy (*Muhlenbergia glomerata*)—On margins of swamps and bush.

Reed-bent grass (*Deyeuxia Canadensis*)—In and about damp woods.

Pony grass (*Deyeuxia neglecta*)—Wet prairie.

Fowl Meadow grass (*Poa serotina*)—Wet prairie.

White top (*Fluminia arundinacea*)—Fresh water ponds.

Manna grass (*Glyceria arundinacea*)—In pools along prairie creeks.

The most abundant and valuable of the sedges is *Carex aristata* which is found in most fresh water sloughs on the prairie and enters largely into the composition of slough hay.

The following table from the reports of the Central Experimental Farm will show the analysis of some hay composed of native grasses in comparison with Timothy and Brome, which are of recognized value.



RANCH CALLED AT HUNTER RANCH PEKISO, ALBERTA.

	Water	Ash	Protein (Flesh Pro- ducing Principles.	Fat	Carbohydrates (Heat Producing Principles.	Fibre.
White-top ( <i>Fluminea</i> ) ...	7.20	6.02	6.75	2.24	43.61	34.18
Pony grass ( <i>Deyeuria con-</i> <i>finitis</i> ) with Barley grass and Beckman's .....	6.65	7.36	7.00	2.75	41.52	35.88
<i>Festuca scabrella</i> , <i>Agropy-</i> <i>rum glaucum</i> , <i>Agropy-</i> <i>rum caninum</i> and others	7.04	7.70	8.25	4.06	41.99	30.96
<i>Sporobolus cuspidatus</i> ...	6.33	6.90	5.94	2.82	49.39	28.62
Sedge ( <i>Carex aristata</i> )...	6.95	7.65	9.00	3.10	47.27	26.03
Timothy grown at Ottawa	9.72	4.41	5.94	5.38	43.25	31.30
Brome .....	10.76	5.25	6.61	4.51	41.01	31.86

The valuable properties of the grasses on the prairies are preserved by rapid drying under the hot sun and thus what appears brown and uninviting may be most fit for winter grazing and with a light covering of dry snow to aid digestion will produce good, fat beef. Unless crusted, snow is no detriment to the feeding of stock. Most grasses on the dry plains, with the exception of those which have running root-stocks, may be said to be "bunch" grasses, but some species are more prominently so than others, and what is known in one locality by that name is not the same as in another. *Festuca scabrella*, *Agropyrum tenerum* and *caninum* are of this nature and very abundant in the west.

"Buffalo grass" is a term applied to grasses which make a thick mat of fine blades which curl when dry. To the south of us the true "Buffalo grass" (*Buchloe dactyloides*) grows, but can hardly be said to extend across the border; we have, however, in abundance two other species to which the name is applied, these are *Stipa* and *Bouteloua*. The latter is known as "Grama grass," and is held in high estimation as a range grass in the Western States, where it was found to stand trampling by stock better than any other.

Spear, Porcupine or Feather grass (*Stipa*) in all its forms is splendid feed, and after the spear-like seeds have dropped is perfectly harmless even to sheep.

Blue joint is a name applied generally to species of *Deyeuxia*, some of which are known as "Pony grass," because of the fondness of horses for it on the plains.

One of the best and most abundant grasses is the Colorado Blue-stem, which is closely allied to the "Couch grass" of the east, and also proves troublesome in cultivated fields because of its running root-stocks. Of the same nature is the Sweet grass or Indian Hay, which analysis shows to be of great value as a beef producer.



The table here given, which is from a report of the United States Department of Agriculture, shows the relative values of several of the grasses which are mentioned above. Timothy is again given as a reference.

	Flesh Producing Principles.	Fatty Matters.	Heat Producing Principles.	Woody Fibre and Ash.
Timothy ( <i>Phleum pratense</i> ).....	11.36	3.55	53.35	31.74
<i>Andropogon scoparius</i> .....	16.21	1.59	33.72	50.48
June grass ( <i>Poa pratensis</i> ).....	11.54	2.86	40.69	44.91
Fowl meadow grass ( <i>Poa serotina</i> )	8.91	3.48	42.44	45.17
Sweet grass ( <i>Hierochloa borealis</i> )	14.31	4.12	41.43	40.14
Sheep fescue ( <i>Festuca ovina</i> ).....	12.10	3.34	40.43	44.13

In addition to the grasses and sedges, and found in all sections of the country, are a few dozen species of leguminous plants belonging to various genera which comprise the pea-vines, vetches, etc., and which greatly add to the worth and attractiveness of the pasture. The following is an analysis of three species from a Central Experimental Farm (Canada) report.

	Water	Ash	Protein or Flesh Producer.	Fat	Carbohydrates Heat Producer.	Fibre.
Pea-vine (hay) ( <i>Lathyrus venosus</i> ) .....	7.11	7.37	14.06	4.89	34.10	32.47
Milk vetch ( <i>Astragalus Canadensis</i> ) ....	9.46	6.02	10.75	1.54	38.78	33.45
Vetch ( <i>Vicia Americana</i> )	7.01	7.99	13.87	1.22	35.58	34.33

Other herbs on the prairie contribute a valuable quota to the available stock foods, but they cannot be individually dealt with here, and many of the above mentioned native grasses do well under cultivation, especially is this the case with the Western Rye grass, which has produced from two to over four tons per acre.

## EVOLUTION OF RANCHING IN THE TERRITORIES

The history of the ranching industry in the Territories approaches the romantic. A well-informed writer on this subject, Mr. Mathews, Secretary of the Western Stock Growers' Association, in a very interesting article, states that in October, 1873, a dauntless little band of red-coated men reached, after many a hundred miles of weary travel, the banks of the Old Man's River (a branch of the South Saskatchewan), near where the present town of Macleod is

situated. They had left Fort Garry and civilization behind them, and under the leadership of the late Judge Macleod, then an officer in the North West Mounted Police, had launched themselves into the hidden dangers and hardships of an unknown land. They firmly planted the British flag in a part of the Empire where it had never been unfurled before. That was part of their mission, as it also was to wrench the land from its state of savagery, and to gently and gradually spread the everwidening horizon of British rights and principles. So it was their mission to formulate laws and ordinances, and generally to establish an orgaized system of good government. How well this object was accomplished, the records of the Mounted Police bear witness.

When the Police arrived there were no cattle in the country; but with them came two old milk cows and a few yokes of oxen, called, in the vernacular, "bull teams." Shortly afterwards, I. G. Baker & Co., a Montana mercantile firm who had trading posts at different points through the Indian country, drove in a small herd to provide beef for the Police. It was not, however, until the summer of 1876 that the first real, genuine bunch of breeding stock made its appearance on the scene. This consisted of one bull and fourteen cows with their calves, totalling up to about twenty-five head. They were brought over from Sun River, Montana, by one John B. Smith (still, by the way, a resident of Macleod), who sold them to a member of the Mounted Police, named Whitney, and he, not having a ranch, calmly turned them loose on the world. It was perhaps, under the circumstances then existing, a risky thing to have done, but the fact remains, and it is an interesting one, that in spite of being strangers in a strange land, homeless and shelterless, they took their chances with the buffalos, the wolves, the Indians, and the prairie fires, and each and all, individually and collectively, turned up fat and serene on the spring "round-up." There were only two riders on that round-up, and there was only the one small bunch of stock to ride for, but, nevertheless, this was the first round-up ever held in the Canadian North West. Small as it was, it was an eminently satisfactory one—twenty-five turned loose, twenty-five gathered in. Joe McFarlane and Oleson Ling then brought in a small bunch of mixed cattle, and took up a ranch just east of the Police fort. From this time on newcomers gradually began to arrive. In 1878 the Indian Department brought in some 800 head. In 1881 the Walrond Ranch started their herd, and then in rapid succession came the Cochrane Ranch Co., the Oxley Ranch Co., the Circle Ranch Co., and many others too numerous to mention.

The range business was fairly on the boom, and from that time until to-day it has steadily grown from a doubtful experiment to a



substantial, evenly-balanced industry. Conditions have materially changed, and new and improved methods have arisen; the old happy-go-lucky style of running things has given way to careful, businesslike management, with all necessary working expenses calculated to a nicety. This means that with an ordinary year—that is, with a year that is not especially prolific in bad weather—the profits of a well-managed ranch are large; so large, that few businesses in the Dominion of Canada, even in the British Empire, can equal the ranching business as a profitable investment. Contrast the humble origin with the really immense interests to-day, and then try to realize that only twenty-five years have intervened! It is a remarkable progress. Last year, according to Government statistics, over 60,000 head of beef cattle were exported, to which may be added the number used in supplying the Indian contracts and in local consumption. Twenty-five years ago the whole cattle industry of the Territories was represented by twenty-five head.

It has been shown, that there are some 195 million acres, over 300,000 square miles, of land available for grazing in the Canadian North West Territories, an area six times as great as the estimated combined grazing area of all the eastern United States. On this enormous extent of country about 200,000 sheep and less than 600,000 head of horses and cattle are at present pastured. Almost every acre of this land will sustain live stock, winter and summer, and the great bulk of it belongs to the most fertile virgin prairie in the world. Millions upon millions of acres of the most nutritious grasses cure on the stem and rot in due course, year after year, without fulfilling their natural mission of furnishing feed for live stock. It seems hopeless to attempt to grasp the possibilities of a two hundred million acre ranch, at present practically unstocked or only stocked at the rate of about one head of cattle, horse or sheep for each two hundred and fifty acres. A comparison with the States of Montana, Idaho and Wyoming is of peculiar interest. While these States do not contain nearly as extensive an area of fertile lands as the Territories, being largely rocky and mountainous, they represent almost an equal total area.

State or Territory.	Total area in Million Acres.	Acres under cultivation.	Acres available for grazing.	Estimated Number of Horses	Estimated Number of Cattle	Estimated Number of Sheep.
Wyoming . . . . .	59	339,290	58,660,710	72,312	747,826	2,840,190
Idaho . . . . .	57	438,731	56,561,269	128,710	397,928	2,658,662
Montana . . . . .	91	519,154	90,480,846	147,659	959,808	3,884,179
Total . . . . .	207	1,297,175	205,702,825	348,681	2,105,562	9,383,031
The Canadian Territories . . . . .	195	605,347	194,394,653	150,000	400,000	200,000

As is well known, all cattle and sheep raised in the Western States are shipped to the Upper Mississippi Valley States to be finished for the market. The following is a quotation from a report by Professor C. F. Curtiss, Director of the Iowa Agricultural Experiment Station, on this subject. Speaking of the States lying west of the One Hundredth Meridian, Professor Curtiss says:

"Already this locality is producing about one-half of the total number of sheep in the United States. During the past few years sheep have been rapidly crowding the cattle off the northern portion of this range territory, and it is quite generally recognized that the range cattle industry is gradually disappearing, except in the southern section. While this territory is favorable to the grazing of stock in large numbers, *the natural conditions will not permit of the production of sufficient feed to properly fatten and finish the stock grown there.* The finish can only be done by drawing on the surplus grain crops of the Upper Mississippi Valley States."

To the excellence of the Canadian North West as a grazing country, no higher tribute can be paid than the statement, that *all cattle and sheep now exported, are consigned direct to their final destination, no grain finishing process being absolutely necessary to fit our range beef and mutton for consumption.* Here is where our nutritious prairie grasses, pure and abundant natural water supply and healthy and invigorating climate, make their influences felt.

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## RANGE MANAGEMENT.

As the live stock business in Western Canada developed many practical cattlemen from the United States drifted into the country. From Texas, Wyoming, Montana and Mexico came men born and bred to the business of "punching cows," and thoroughly versed in all the peculiarities in connection therewith, consequently the cattle business of the North West Territories and of the range States to the south are to-day run on practically the same lines, and a round-up in Southern Alberta or Western Assiniboia is a precisely similar affair to its cousin, or more properly speaking, perhaps, its father, across the line.

There is no doubt a certain bold ring to the life of a cow-boy that appeals to the average Anglo-Saxon, but the halo of romance which, in lands where the genus is unfamiliar, appears to have permanently gathered around him, is conspicuous "at home" by its

absence. A modern cow-boy's or cow-puncher's (as he is more generally known in his own land) existence, is not by any means the reckless kind of a one so many youths fondly imagine it to be, although it is considerably less humdrum than many that could be mentioned. A good deal of more or less interesting literature has been written at one time and another dealing with the almost super-human daring and the reckless deeds of the cow-boy, but in actual practice he is found to be very much like his brother man, neither more daring nor less reckless, and, as a general rule, a sober, hard-working member of his own community. There are intervals when a "cow puncher's" life perhaps approaches the ideal, but they are only intervals, for the all-prevailing round-up, like the venerable old chariot of tradition, is for ever rolling along; and round-ups signify work, and work too of a kind that is no sinecure for anyone connected with them from the captain down to the horse wrangler, as the gentleman in charge of the horse herd is named. What with bull round-ups, spring round-ups, beef round-ups, calf round-ups, fall round-ups; gathering the weak cows on whom the grim and heavy hand of winter is making itself felt; feeding the young weaners, doomed to their orphan lives, herding the bulls, all these, with many other duties too numerous to detail, fully occupy the lives of those who gain their daily bread by ranching in the Canadian Territories. The country over which the round-up holds sway may be said to be bounded on the east by the Cypress Hills, on the west by the Rocky Mountains, on the south by the International boundary, and on the north by the main line of the Canadian Pacific Railway. It has latterly been extending considerably north of the Canadian Pacific Railway, but not yet to any very organized extent. This stretch of country, which may be called the "Canadian range," and within the wide bound of which it is customary to turn stock loose, "free as the wind that blows," trusting in a kind providence and an efficient round-up to gather them again, is divided into "round-up districts," each of which, for round-up purposes, is ruled over by a local Stock Association. These bodies legislate on all matters connected with their own districts. They decide what dates the round-ups shall start out, they appoint the round-up captain, they own the round-up outfit, consisting of corrals, mess wagons, tents, etc., and they assess and collect from the stock owners the charges in connection with the work done in proportion to the number of head owned by each.

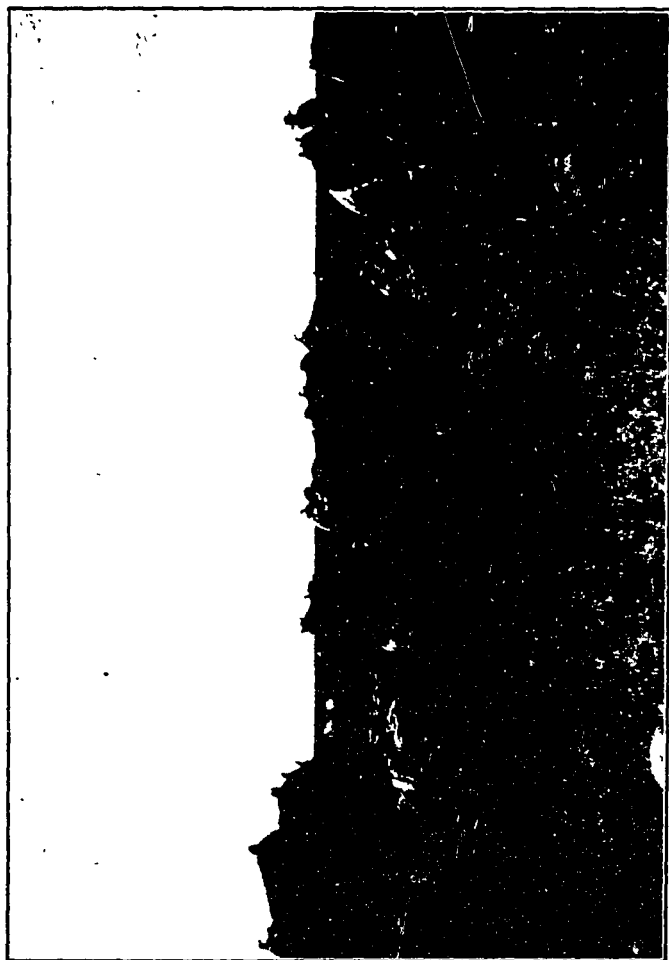
There are eighteen regularly organized and well equipped round-ups in Western Canada, working on a fairly big scale, and they pretty well cover the country, and there are probably some five or six others which do not operate in quite such a business-like

manner. It can be readily seen, therefore, that a very complete organization extends over the whole range country. It is purely a business arrangement and is essential to the financial welfare of those who have invested in the cattle industry. Thousands and thousands of cattle, not to mention horses, are branded and turned loose on the ranges annually, and on the results of the round-ups, whether they make a clean gather or not, depends very materially the livelihood of the individual stockman.

An ordinary spring round-up party consists, in the Canadian North West, of from twelve to thirty, or more, men, governed by a captain and accompanied by one or more cooks and a horse wrangler, the balance of the party being cow-boys. Each "cow-man" is provided with a string of from eight to twelve saddle horses which, it may be superfluous to state, are used alternately. The captain is, so to speak, the general in command of the forces. He details the daily duties of everybody, barring the cooks, who don't require detailing. Accompanying the party is the herd of spare saddle horses and accompanying the saddle horses, during the day time, is the wrangler. During the nights they are herded by two of the cow hands, all of whom have to undertake this disagreeable duty by turn, the captain calling the turn.

Early in the morning, very early, in fact, long before the break of day, the cook begins his matutinal prowlings, and very soon after the whole camp is astir, and breakfast having been disposed of, the horse herd is run into a temporary corral composed of a wagon and two ropes, one stretched from each end of the wagon, and in this apparently flimsy substitute for the substantial posts and rails of the home corral, each man selects, ropes and saddles up the horse for his morning's work. Very soon the camp is deserted by all but the cook, the wrangler, and the last shift night herder, the latter being entitled to a morning's siesta, providing it isn't one of the camp's moving days. The riders having disappeared by twos and threes in all directions, the practical duties of the day may be said to be about to commence.

The first operation is the gathering of all cattle or horses, as the case may be, within their radius by the various parties from the camp, and the cutting out of all cows and calves and this is in itself quite an interesting performance. The "cutters" ride slowly about through the herd, singling out the animals required and gradually edging them towards the outside circle, around which the other men keep constantly moving to prevent any breaking away. Once the victims are near the outside rim of the bunch they are quickly rushed out and away, and are then driven to the branding corrals, which,



COWBOYS WAITING FOR THE ROUND-UP, SOUTHERN ALBERTA.  
Photo by Steele & Co, Ltd.



on most ranges, are found every twenty miles or so. Here is where it gets interesting for the calves, as they are cut loose from their mothers and turned into the corral. Just as soon as they are well inside, a man on horseback, with a rope hanging loosely down by his side, walks up quietly behind one; there is a rapid scientific twirl of his wrist; the horse suddenly stands stock still, and the unsuspecting calf walks calmly into the rope noose so cunningly laid just in front of his hind legs and is, of course, jerked to the ground. As soon as he is down he is grabbed by another man and stretched out in a workmanlike manner in the most convenient position for receiving his own particular brand. This is an inheritance from his mother, for with whatever hieroglyphics she may be decorated, so is he, as a rule, or ought to be.

The branding itself requires to be done by an experienced cowman; a little too much pressure on either side, or not enough pressure, may blotch the brand in such a manner as to make it indecipherable in a year's time, even to the man who put it on. It may here be mentioned that every person who ranges stock on the public domain, in fact, everybody who owns cattle or horses, is upon payment of a nominal fee allotted a brand for cattle, horses or both by the Department of Agriculture at Regina, the provisional capital of the Territories. There are now almost 20,000 such brands registered in that Department, and the number is increasing daily. Branding with an unregistered brand is prohibited by law. To continue the story, however, the calf being now in readiness for the balance of the ceremony, the man who is running the iron selects the one required from the fire, in which are probably some twenty or so others, and after seeing that it is of a proper red heat calmly presses it to the shrinking flesh. Twenty seconds, and the deed is done. At length, his hind legs being freed from the encircling rope, the young calf staggers to his feet hardly realizing yet all the funny experiences he has gone through, and off he goes to the bosom of his frantic mother, who again takes him under her maternal care.

The foregoing will give a very brief idea of the operations of a spring round-up, and the work described is what occurs on them every day and all day as long as there is sufficient light to see. There is nothing particularly easy about the work, however it may read, and when supper has been disposed of there is mighty little of an interval allowed before those who have been engaged in the day's operations "hit the pillow," or whatever substitute they may have for that article of comparative luxury. There are sometimes other duties to be performed, such, for instance, as butchering a "beef" for the round-up rations, or holding a herd in the teeth of

a blinding storm, or searching out the lairs of stampeded saddle horses.

In this manner, therefore, the whole range country is gone carefully over at least every spring, and calves are branded and stray cattle of every description are sorted up and returned to their own districts, and generally a spring cleaning is given, which is intended to be sufficiently thorough to account for every beast on the range. It is really astonishing what a distance cattle will travel before a storm; it is a common thing, for instance, for the Medicine Hat round-up to pick up steers belonging to Pincher Creek, or for Calgary cattle to be gathered by the Willow Creek outfit. On account of this roaming propensity, therefore, one round-up frequently sends a representative to another one. This representative will have his own string of horses and will do his share of the work just the same as if he were a permanent member of the round-up he is temporarily attached to, only his particular duty will be to keep his eyes open for the brands of those belonging to the round-up who sent him, and when the work is finished he returns, taking with him all animals discovered belonging to his part of the country; and if there should happen to be some amongst them owned by parties still further away, then they are passed on to the next round-up and will eventually reach their owners.

These remarks have been confined more particularly to a spring round-up party, but all are essentially the same. For instance, a beef round-up is for the purpose of gathering steers, dry cows, spayed heifers, or any other class of cattle that may be fit for beef. Consequently there is no branding to be done; but to offset this there is a beef herd that must be close herded every minute of the day and night from the time when each animal has been picked up until the whole herd is safely gathered into the sheltering arms of the stock cars.

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## CATTLE.

Granting that no reasonable doubt exists in the minds of any one as to the ability of the Canadian North West to produce export cattle of high quality and that there is practically no limit to the number that can be produced, there is still a question of prime importance to be satisfactorily answered before the prospective investor will care to embark in the cattle business here, namely, that of markets.

During the year 1902 an important enquiry was instituted in

Great Britain with a view to ascertaining the exact quantity of British fed meat consumed annually by the population of the United Kingdom. This necessarily involved a computation of the proportion per capita of foreign, Colonial and English meat required. British meat imports are rapidly reaching the gigantic volume of a million tons a year, but the breeders there appear to find consolation in the fact that the home consumption of the United States, which now supplies forty-five per cent. of the foreign meat imports, shews signs of growth. It is found that the United States population is increasing at the rate of twenty per cent. per decade, which means an additional number of cattle will be required annually for home consumption of at least 200,000 head. At that rate, the United States may cease to export beef within not very many years. The following statement shews the area and the total number of cattle and sheep of each of the principal countries supplying meat to Great Britain.

Country.	Area Square Miles.	Number	
		Cattle	Sheep.
Argentine .....	2,903,000	28,000,000	110,000,000
Australia .....	7,650,000	10,000,000	70,000,000
New Zealand .....	272,000	800,000	18,000,000
United States.....	2,970,038	67,822,336	61,605,911
Uruguay. ....	185,000	6,000,000	18,000,000
United Kingdom.....	121,000	11,376,000	30,000,000

Estimating on the basis of recent census returns, apparently the United States has .88 of a cattle beast and .8 of a sheep per capita of inhabitants, the Argentine 6 and 26, Australia 2 and 14. New Zealand 1 and 22, and Uruguay 6 and 18 respectively. It is readily admitted that all the countries mentioned are now stocked up to their full carrying capacity and with a prospect of decreasing exports from the United States and increasing demands in Great Britain no fear need be entertained as to the Territories finding a remunerative market for all the beef that will ever be produced.

Reference is made further on to the increasing importation of "stocker" cattle into the Territories. The term "stocker" cattle means calves, yearlings or two-years-old. They are principally brought in from the Provinces of Ontario and Manitoba or the farming districts of the Territories. These cattle have generally been well cared for, owing to the necessity of stabling or shedding the stock during the winter in the portions of Canada where they have been raised. That practice again involves regular feeding and watering, and the farmer, therefore, is compelled to reduce his herd

within the limits of the stable or shed accommodation and the quantity of winter feed he has available. This necessitates smaller numbers and enables the farmer to control the breeding intelligently and to devote personal attention to each head of stock. The result has been a uniform high standard of excellence in the quality of calves which the ranchers have to draw upon and the minimum of casualties both among the calves and dams. It will thus be seen that the farming section of the Territories is principally suited for cattle *breeding* in connection with mixed farming, while stockmen in the ranching section proper are gradually bending their whole efforts more towards the business of *maturing* cattle.

The growth of the export beef industry of the Territories has been rapid since its inauguration in 1890, when the first large shipment took place consisting of 8,000 head. A prominent factor in this increase has been the importation of stocker cattle from eastern points. The following statements of imports and exports of cattle is of considerable interest. It is evident that within the next two or three years Territorial exports must of necessity very materially increase.

#### IMPORTATION OF STOCKER CATTLE.

	1899	1900	1901	1902
From Ontario .....	8,000	11,434	15,855	21,759
From Manitoba .....	25,000	24,896	30,000	33,000
Total.....	33,000	36,330	45,855	54,759

#### TERRITORIAL BEEF EXPORTS.

East and West .....	41,471	55,129	39,763	60,601
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#### STATEMENT OF CATTLE EXPORTS FROM THE TERRITORIES FROM 1899 TO 1902, INCLUSIVE.

	Districts.	Year.	East.	Total shipment.	
				West.	
FARMING SECTION—	Saskatchewan .....	1899	2,765		2,765
	" .....	1900	4,260		4,260
	" .....	1901	1,973		1,973
	" .....	1902	2,193		2,193
	Northern Alberta ....	1899	568	55	623
	" " ....	1900	492	921	1,413
	" " ....	1901	36	1,254	1,290
	" " ....	1902	590	1,896	2,486
	Eastern Assiniboia ...	1899	7,973	10	7,983
	" " ....	1900	13,871	47	13,918
	" " ....	1901	6,611	82	6,693
	" " ....	1902	9,117	305	9,422



# DISTRICT OF ATHABASCA

# LADYAN

**ALBERTA** Wetaskiwin EDMONTON

# MONTANA

## GREAT FALLS

**HELENA**

**OF**

# ATHABASCA

# SASKATCHEWAN

SKATCHENAN

**PRINCE ALBERT**

**BATTLEFORD O**

**SASKATOON**

Yukon  
Yukon Territories  
Yukon River  
Klondike River  
Yukon and Klondike Railways  
Yukon and Klondike Rivers  
Yukon and Klondike Railways

**DISTRICT**

# ASSINIBOLA

A map of Manitoba, Canada, showing its geographical context. The province is labeled 'MANITOBA' in large, bold letters. To its west is the 'PACIFIC' coast, to its east is 'HUDSON BAY', and to its south is the 'UNITED STATES'. The 'ATLANTIC' coast is shown to the northeast. The map also indicates the 'GREAT BRITAIN' coast to the east. The province is shown as a large, irregularly shaped area with a hatched border.

DEGLNA

# NORTH DAKOTA

**BISMARCK**

		Year	East.	West.	Total Shipment
RANCHING SECTION—Western Assiniboia					
	Districts.	1899	10,929	170	11,099
	"	1900	10,942	172	11,114
	"	1901	9,322	227	9,549
	"	1902	17,158	280	17,438
Southern Alberta					
	"	1899	13,095	5,906	19,001
	"	1900	18,549	5,875	24,424
	"	1901	13,631	6,627	20,258
	"	1902	21,557	7,505	29,062
The Territories					
	"	1899	35,330	6,141	41,471
	"	1900	48,114	7,015	55,129
	"	1901	31,573	8,190	39,763
	"	1902	50,615	9,986	60,601

The maturing of stocker cattle on the ranch is proving a very paying business. Such cattle can usually be bought delivered at the purchaser's railway station in carloads of from 25 to 45 head, according to age, at the following prices:—

Weaned calves (six months old) per head.....	\$11.00 to \$14.00
Yearling steers, per head .....	17.00 to 20.00
Two-year-old steers, per head .....	21.00 to 25.00

Once a steer attains a full year of age he can be turned out on the range and will usually shift for himself, winter and summer with very little risk and without any expense to his owner. The manner of branding and gathering him at maturity has already been fully described. With three-year-old steers finding a ready market at from \$42.00 to \$50.00 and four-year-olds \$45.00 to \$55.00, according to weight and quality, a very simple calculation will demonstrate how money may be made quickly in this manner.

A great many enterprising men have obtained their first start by investing a few hundred dollars in yearling steers and ranging them with their employer's band. Where such cattle can be watched and looked after, the investment readily doubles every third year, and with what wages are earned in the meantime, soon places a man in a position where he can start on an independent basis.

The following reports that have been carefully compiled from statements made by ranchers in the various districts as to the results of their operations on the range during 1902 should be carefully perused. They practically constitute the consensus of opinion as nearly all the large ranchers replied to the questions asked, and as 1902 appears to have been a fair average year on the range, this summary conveys a very good idea as to conditions prevailing

throughout the ranching section and the possibilities and limitations of the industry. It will be noticed that here and there somewhat heavy winter losses and disappointing calf crops are reported. Sight should not, however, be lost of the fact that this information does not refer to *smaller herds of cattle* where the owners are able to give individual attention to them and herd them during the breeding season, when losses from these causes are practically nil. The percentage of increase refers to the number of cows fit to breed that had calves, the percentage of losses to the whole herd.

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## SUMMARY OF REPORTS FROM RANCHERS ON 1902 OPERATIONS.

MAPLE CREEK—The general opinion seems to be that the winter loss was about the same (5 per cent.) as that of the previous season, although the spring losses would in some districts raise it to 10 per cent. The rate of increase has been placed by some of the largest ranchers at about 45 per cent. of the cows bred, but proprietors of many smaller bunches report 60 per cent. and over. Wolves have been very troublesome and seriously affected the calf crop. More than the usual amount of hay has been secured and it is of good quality. The grass on the ranges cured well and cattle were in excellent condition at the beginning of the winter. The prices received for beeves (three and four year old steers) were said to be the highest ever paid and ranged from \$42.50 to \$60.00, and \$30.00 to \$40.00 for fat cows. Generally speaking the health of cattle was good, but in some herds inflammation of the eyes was prevalent, principally amongst eastern yearlings, range calves and bulls. Some mange still appears on the ranges and a slight outbreak of anthrax, which did not spread, was reported.

MEDICINE HAT—The winter losses on this range have been merely nominal, and 1 to 2 per cent. would probably cover them. During the stormy weather in spring, however, the loss was somewhat heavier. The calf crop was about the same as that of the previous years, varying at from 65 to 80 per cent. of the breeding stock. More than the usual quantity of hay of excellent quality was secured and, as the grass on the range was well cured, stock were in fine condition for the winter. The prevailing prices for beef animals were somewhat in advance of former years, 3 1-4 to 4 cents per lb. or \$45.00 to \$57.00 per head, being given for steers, and 3 to 3 1-2

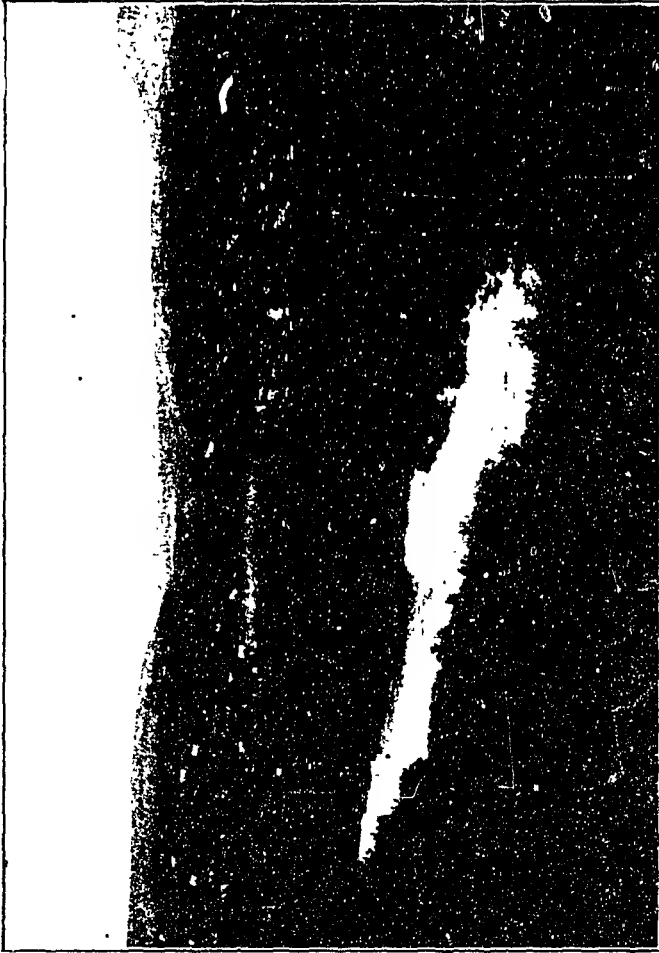


cents per lb. for cows. The losses in summer from wolves are still heavy in some portions of the district, and an increase of the bounty is asked. The cattle generally speaking have been in good health. A few cases of humpy jaw, black leg and mange have occurred.

MACLEOD AND LETIBRIDGE—The average losses on this range would be about 10 per cent., but the winter was very favourable for stock. The wet weather in spring killed some calves and was hard on the heifers also, but, nevertheless, the increase was from 50 to 75 per cent. of the cows. The hay season was good; the best in fact for many years and a good deal of fine hay was put up. Grass cured well on the prairies and cattle were in prime condition for shipping or wintering. Prices for beef cattle ranged from \$40.00 to \$55.00 for steers. The general health of cattle was good although a few cases of mange are still to be seen.

PINCHER CREEK—The grass having been well cured on this range the winter loss was considerably lighter than during the previous season and has been estimated at from 1 to 5 per cent. The natural increase has been higher by about 10 per cent. and is variously estimated at from 60 to 85 per cent. of the breeding stock. The amount of hay of good quality secured was somewhat in excess of the usual quantity notwithstanding the large amount damaged by rain. In the foothills early frosts damaged the grass considerably but on the prairies it was fairly well cured. Cattle were in splendid condition for beef and for wintering. The prices realized were about \$4.00 per head better than 1901 for beefers, or about 5 per cent. advance all round. There was some loss amongst Manitoba stockers from intestinal parasites, and ophthalmia, amongst the bulls, gave some trouble, but the health of cattle in general was good. The range is rapidly becoming restricted in area by the fencing of farms, and the character of the cattle industry in this district will soon have changed.

PORCUPINE HILLS—The winter of 1901-02 was very favorable for stock and the losses were much lighter than during the previous one, but as the spring and early summer were very wet and cold many calves were lost. Ten per cent. would cover the whole loss. The increase on the range was about 50 per cent. of the breeding stock and probably 75 per cent. amongst cattle bred in fenced pastures. The hay was of good quality and a very large amount was put up. As a rule the grass cured well, but in some places it was slightly frozen. Cattle were in good condition to winter and may be expected to come through well. The prices obtained for beeves ranged from 3 to 4 cents per lb., or from \$45.00 to \$55.00 per head



CATTLE ON THE CIRCLE RANGE, BIG HORN, SOUTHERN ALBERTA

Photo by Steele & Co., Ltd

for steers, the price for cows being \$30.00 to \$35.00. Wolves are comparatively few in-number, but some damage was reported from back in the hills this fall.

**HIGH AND SHEEP RIVERS**—The winter of 1901-02 was very favorable to the ranging of stock and the losses consequently were lighter than during the previous season, being about 5 per cent., but they became somewhat heavier in the spring amongst breeding stock and calves. The proportion of breeding stock which raised calves was about the same as the year before, that is, about 50 per cent. on the range and 75 per cent. in small bunches. Cattle were in good condition at the beginning of the present winter, but the grass was not uniformly well cured on all parts of the range. There was little change in the prices realized for cattle which sold for from 3 to 3 3-4 cents per lb.

**RED DEER RIVER EAST**—There was a winter loss of about 1 per cent. only, and the increase amongst closely herded cattle was about 70 per cent. of the breeding stock. Both the quality and quantity of the hay secured was over the average. The grass cured well on the prairie and cattle were in fine condition to winter. Beef steers averaged something over \$47.00 per head and breeding stock was worth from \$26.00 to \$32.00. The health of cattle was good except that a number were affected with blindness for a couple of months, but became all right again.

**CALGARY AND BOW RIVER WEST**—Winter losses have been placed at from 3 to 7 per cent. The average of the natural increase is probably about 60 per cent. in range stock and 85 per cent. in fenced herds. A great deal more than the average quantity of hay was put up, but most of the early crop was spoiled by rain. A great difference of opinion seems to exist as to whether the grass cured well or not, but evidently it cured much better on the plains than amongst the hills, and on the whole is in better condition than it was in the previous autumn. Early spring beef sold live weight at 4 to 4 1-2 cents on foot, and 3 1-2 cents for steers and 3 cents for dry cows at later dates. These prices would be about half a cent advance over last season's. The general health of cattle was good, but there were a number of casualties due to miring and drowning. During the past few years prices for all classes of cattle have steadily increased and at the present time, breeding herds which a few years ago were sold at from \$23.00 to \$25.00 per head all round, cannot be purchased for less than from \$28.00 to \$30.00. Three-year-old cows, \$30.00 to \$38.00 each; old cows, from \$24.00 to

\$28.00. Calves from six to eight months old are worth from \$14.00 to \$16.00.

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The Territorial Government has interested itself very actively in encouraging the importation of pure bred bulls. Under an arrangement with the Canadian Pacific Railway, the Government carries a single pure bred bull for an actual settler from any point in the Province of Ontario or Manitoba to any point in the Territories at a uniform rate of \$5.00 per head, the Government taking entire charge of the shipment. The great bulk of the bulls brought into the Territories are of the Shorthorn, Hereford, Polled Angus and Galloway breeds. Representatives of the Ayrshire, Holstein, Highland and other breeds are, however, quite numerous. Bulls for breeding purposes are imported chiefly from the eastern provinces of Canada, the United States, and Great Britain.

It is a well known fact that thousands of dollars are annually sent out of the Territories for pure-bred bulls for use on our ranches and stock farms and that this demand could at least partly be supplied from local sources if we had a larger number of skilled breeders, cannot for a moment be doubted. Superior individuals of nearly all breeds of cattle and other live stock are now being successfully produced in the Territories, in increasing numbers, and it has been amply demonstrated by actual experience that many portions of the Territories present a most favorable field from every point of view, for the successful breeding and raising of pure-bred stock. The production of pure-bred bulls and rams ought to be an important branch of agricultural operations in the Canadian Territories. What is now lacking is simply more herds and more breeders. Several thousand bulls are annually required to provide for the breeding of the natural increase of the cattle stock now in the Territories and it is safe to say that scarcely five per cent. of the number wanted is to-day in the country. No practical danger of glutting the market with pure-bred bulls therefore exists.

Some years ago the Territorial Cattle Breeders Association inaugurated an Annual Auction Sale at Calgary of pure-bred cattle, in the interest of its members, under such conditions that breeders in Assiniboia, Saskatchewan and Alberta would all be on an equal footing, the association undertaking to carry *all animals intended for sale to Calgary at a uniform rate of \$2.00 per head* no matter what part of the Territories they are shipped from. The following summary of the result of the 1902 sale is of interest as shewing the value of pure-bred cattle of the various breeds in the Territories.

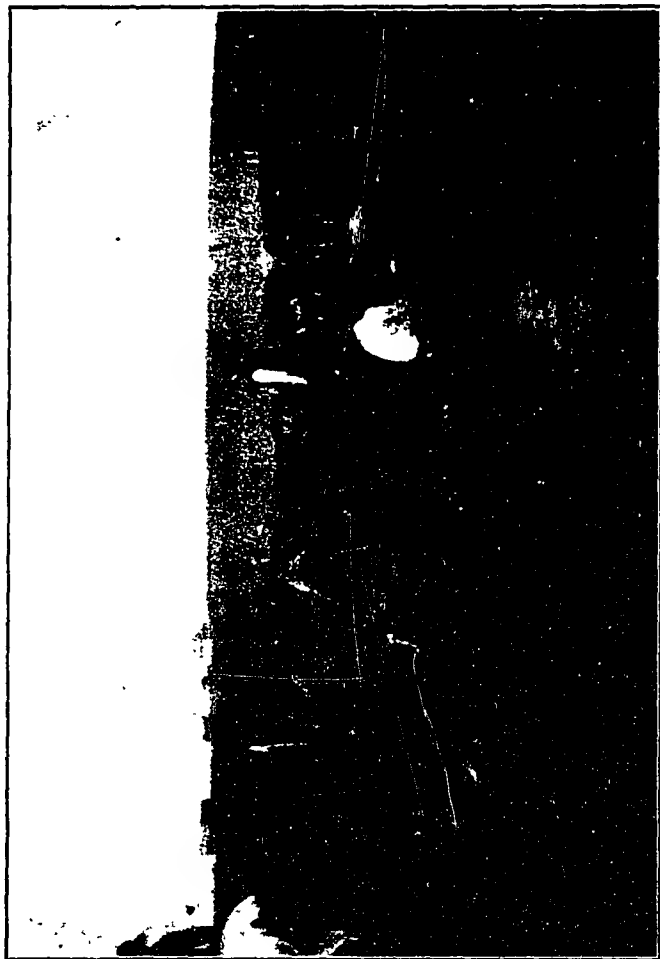
	Totals.	Averages, Per Head.
2 Aberdeen Angus bulls sold for.....\$	145 00	\$ 72 50
10 Aberdeen Angus females sold for.....	685 00	68 00
1 Ayrshire bull sold for.....	114 00	57 00
1 Ayrshire female sold for.....	40 00	40 00
14 Hereford bulls sold for .....	1,288,000	92 00
150 Shorthorn bulls sold for.....	15,588 00	103 92
41 Shorthorn females sold for.....	3,215 63	78 43
168 bulls sold for .....	17,127 00	102 00
52 females sold for.....	3,940 63	75 78
220 head .....	21,067 63	95 76

The days of the long-horned, slab-sided range steer are rapidly drawing to a close and the professional "cow puncher" is changing his methods and gradually conforming to the new order of things. In the early history of cattle ranching, the stock was branded, placed on the range and severely left alone between the annual round-ups, when the beef was gathered and the young calves branded and turned out to take their chance until maturity, as their parents had done before them. If bad seasons came along the weak animals died and the fittest survived, according to the inexorable laws of nature. As years passed by, it became evident that some measure of constant care and attention could profitably be bestowed upon the stock and the gospel of live stock improvement rapidly spread until to-day ranchers wean the calves in the fall and provide food and shelter for them during the first winter. The breeding cows are herded during the summer and mated with pure-bred bulls in sufficient numbers, which are removed, kept up and fed at the end of the breeding season. This insures a larger increase and avoids the dropping of late or too early calves with the attendant losses during severe weather. Close supervision is now exercised over the stock during the winter and weak cows are promptly gathered and fed. The periodical round-ups are also organized in a more systematic manner than in the earlier days, and the result is the losses on the range have diminished considerably and the increase in working expenses, which are naturally larger than under the old system or lack of system, is more than counterbalanced by the increased profits due to the more humane and rational methods now in vogue on the cattle ranches of the Canadian West. To convey an idea of the class of cattle now produced in the Territories, it may be mentioned that a train load of four-year-old steers from the Cochrane ranch, after being driven 140 miles and shipped by rail

2,300 miles to Montreal, weighed at the end of the trip on the average 1,385 pounds.

Another radical departure in modern ranching is the tendency to winter feed and finish mature steers. At the present time the bulk of the "beef" is sold in the late summer and fall when range cattle are in the best condition and shipment is made direct to the British market off the grass. At the time of the year the Canadian range cattle land the prices are usually low and every reason, therefore, exists why an attempt should be made to have a certain percentage of the cattle in condition to ship at some other time of the year, preferably the late spring or early summer. As the shipments of Canadian cattle increase in volume the difficulty will be aggravated accordingly. This position of affairs has led some of the more progressive ranchers to gather a certain number of their three-year-old steers in the fall and feed them hay, and often grain as well, during the winter. These steers would probably be worth 3 1-2 cents per pound in the fall which, with a live weight of 1,150 pounds, would amount to about \$40.00 per head. If two hundred pounds are added to their weight during the winter, which can easily be done feeding hay alone, they would, with beef selling at 4 3-4 cents per pound in the spring, be worth over \$64.00 per head. Surely a good return for the amount of labour and feed bestowed on winter feeding one head of cattle.

As above stated, very little winter grain feeding of cattle is practiced in the Territories at the present time. This is a great industry in the United States where feeders generally hope to make a clear profit of at least \$15.00 per head on each animal thus finished. As a rule, the period of feeding covers from 120 to 190 days according to the weather, materials used and the capacity of the stock, which varies greatly, being very high in well-bred cattle and lower in the cattle of the class of the Mexican rangers. The amount of grain is usually from two to three hundred pounds, but in addition to the actual bulk gained, a large profit is made owing to the increased value of the beef of the well finished animal. It is often argued that the Territories cannot hope to develop a feeding industry owing to the fact that Indian corn (maize) cannot as yet be successfully matured here. As a matter of fact, corn is not the only feeding material used in the United States, oats, barley, flax, ensilage, alfalfa, prairie hay, straw, etc., all enter into feeding operations in the various portions of the Central States, according to what grows best in each locality, and a great many of the agricultural colleges there are busily engaged upon steer feeding investigations with a view to ascertaining what is the most profitable cereal and



VIEW INSIDE BRANDING CORRAL, GENERAL ROUND-UP.  
Photo by Steele & Co., Ltd.

ration under given market conditions; a question which has by no means, as yet, been determined.

Investigations so far seem to lead to the conclusion that with the enormous crops of oats that can be produced in Saskatchewan and Northern Alberta, the necessity for corn in the Territories is not apparent. Barley also is an excellent fattening food and it is supposed that a better quality of meat is produced where this cereal forms part of a "balanced" ration. It is very true that neither oats nor barley will compare favorably in point of yield per acre, with corn, but the difference is not anything like as great as appears at first sight. The average yield per acre of corn, in the greatest corn producing State of the Union (Kansas) for the last ten years is 19.71 bushels or 1104 lbs.; the average for Iowa 30.93 or 1728 lbs., and Nebraska 23.21 bushels or 1300 lbs. The general average of oats for the North West Territories for the last five years, (as far back as there are any official records) is 35.30 bushels per acre or 1190 lbs., of barley 25.60 or 1229 lbs. In the Edmonton district the average of oats for 1902 was 28.97 and 1901 67.50 bushels per acre. Barley in the same district has yielded from 24 to 52 bushels per acre, as an average, since 1898. Corn weighs 56 lbs. per bushel, barley 48 and oats 34. After making allowance for the increased production per acre, but admitting that pound for pound there is equally as much, if not more, feeding value in oats and barley than in corn, it cannot for one moment be conceded that feeding material is any scarcer or dearer on the Canadian side than on the American side of the West and, consequently, no good reason can be assigned why the industry of grain finishing cattle should not be successfully prosecuted in the Canadian Territories.

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## SHEEP.

Early in the eighties Messrs. Andrew Wallace and Thomas Johnson brought in the first shipment of sheep from Montana to Maple Creek, Western Assiniboia, and in 1885 the Canadian North-West Coal and Colonization Company brought their Merino flocks from the United States to Western Assiniboia. In 1886 W. Nicholls located near Walsh with about 1,000 ewes. Everything prospered beyond expectation until the winter of 1892-3 when, owing to an insufficient supply of hay, some losses were sustained by the breeders then in business.

During the early history of the sheep industry of the Terri-



tories the only market in sight was Winnipeg. A few shipments of mutton wethers were made to Great Britain, but the venture did not turn out satisfactorily. The sheep were apparently all that could be desired, from a standpoint of breeding and size, but the British market demanded much better conditioned mutton than it was found possible to produce by range finishing. When the Kootenay District in British Columbia began to attract the attention of capital in 1894-5 a new and valuable market for mutton became available, which the Territories have been since unable to supply. The opening of the Yukon gold fields also had a very marked effect upon the value of mutton.

The principal market for Territorial grown mutton is at present the Province of British Columbia and the Yukon Territory. Some exportations are also made to the Province of Manitoba. The requirements of that Province are not, however, as yet very considerable, but with the large growth of the urban population and the gradual acquirement of a taste for mutton noticeable all over the civilized world, it is probable that Manitoba may in time become a valuable market for Territorial mutton. During the past year some 4200 head of Territorial sheep were sent to the Manitoba market and, no more being available, it was found necessary to draw upon the Province of Ontario for over 1500 head. These sheep were thus sent some two thousand miles to supply a market right at the front door of the Territories. The markets in British Columbia and the Yukon are susceptible of expansion as considerable mutton is now being brought in from the United States and the Colony of New South Wales which might also be supplied from the Territories. With the rapid growth of the sheep industry, however, is probable that within very few years there will be a surplus of mutton to be disposed of outside of Canada, and the Territories will then develop an export business to Great Britain.

The record of sheep raising in every State of the Union to the south where live stock has been run on the range principle, has been one of bloodshed and disturbance. Thousands of sheep have been destroyed and shepherds murdered in cold blood by the cattle owners in Montana, Wyoming, Oregon and other States. It is satisfactory to note that although friction between cattle men and sheep men is not unknown in the Canadian Territories, their differences have always been adjusted in an amicable manner. Acting on the supposition that sheep eat out the range and render it impossible to graze cattle on them with profit afterwards, certain large areas admirably adapted for sheep grazing, have been set apart for this purpose by the Dominion Government. Outside these areas

sheep are not allowed to graze on the public domain, nor are leases granted for this purpose, but any person may, of course, keep as many sheep as he likes anywhere in the Territories so long as he confines them to his own land.

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## SHEEP DISTRICTS.

The bulk of the rams purchased annually by Territorial flock-masters are pure-bred Shropshires and Oxford Downs. Some Leicestershire, Cotswolds and Southdowns are also used. There are very few breeders of pure-bred sheep in the Canadian North West and there would appear to be a good opening in this line of business for experienced men with the right class of stock. Strong, close-wooled rams are required for range purposes and \$12.00 to \$18.00 per head is paid for home-bred, acclimated stock. In order to facilitate the purchase and sale of pure-bred rams the Territorial Sheep Breeders' Association organized an annual ram sale, which is held in Western Assiniboia, where at present the bulk of the sheep are ranged. To convey an idea of the splendid opening which exists in the Territories for the production of pure-bred stud sheep it may be stated that one hundred and eight sheep were disposed of at the last sale, the average price paid being \$15.62 per head. The bidding was spirited for animals of merit and it is satisfactory to note that sheep of low quality could scarcely be sold at any price, while good values were realized for good animals. This is decidedly the proper attitude for ranchers to take and it augurs well for the sheep industry of the Territories that buyers should exercise such discrimination in their selection.

Before leaving this subject, it might be well to submit the result of several years of practical experience in sheep ranching on the plains of the Canadian North West, embodied in a letter contributed by Mr. F. W. Martin, Little Box Elder Ranch, Maple Creek, Assiniboia, to a United States journal devoted to sheep breeding:—

"In writing on the subject of the Canadian North West as a sheep country I will confine my remarks to the ranching portions of the Territories.

"Last winter we had an American from Oregon with us who remarked that the people of his State thought all the continent north of the 49th parallel was British Columbia. Now, while I don't attribute such glaring ignorance regarding this country to the average American, I think that there is a great deal of misconception in the United States respecting the Canadian North West Territories. The old American definition of Canada, 'A country lying

north of the United States, inhabited by Eskimos and Indians,' still has, I believe, some hold on many American minds. Nevertheless, in this 'Eskimo and Indian' country there is one of the finest sheep grazing countries on the Continent.

"The Chinook belt of the Canadian North West extends from Old Wives' Lake on the east, to the Rockies on the west, a distance of about 400 miles and from the Boundary line north from 100 to 300 miles. And this is but a small corner of this great country.

"Though last winter was the worst for sixteen years, the lowest temperature registered was 35 degrees below zero, the loss of sheep has been very small. Most ranchers put their loss at from 3 to 6 per cent. We had 1,500 ewes which had never had a roof over their heads, nor a mouthful of hay all winter and did not lose above 12 of them.

"The ranges are hilly or rolling prairie with a gravelly or stony soil in the river and creek bottoms, the former covered thickly with buffalo and other short grasses, just the thing for sheep grazing, while the bottoms grow fine blue-joint. There is abundance of native hay, both upland or bench hay and slough hay and as I said before, blue-joint.

"The western part of the range (Southern Alberta) is watered by the Bow, Belly, Old Man, Red Deer and St. Mary's rivers. The eastern part (Western Assiniboia) is divided in two by the Cypress Hills running east and west for about 200 miles. From this ridge flow many streams to the north and south which water this country on either side. Besides this are innumerable lakes of all sizes, and many living springs. Many ranchers have started in places where there was no water and have sunk wells and raise the water by wind-mills. Water can be obtained at from 12 to 50 feet anywhere.

"I was talking to two Americans from Utah the other day in Maple Creek, who went into the sheep business here last year. One of them remarked that he had never seen such sheep feed and he had been in the business all his life. 'Why,' said he, 'if the people over there knew there was such a country here they would all come.'

"Although little has been done in the way of irrigation here, enough has been accomplished to demonstrate that it is not only practicable but extremely profitable. Many ranchers on the north and south sides of the Cypress Hills have done enough to grow hay and crops for their own stock in the creek bottoms. Then I may mention the big ditch at Lethbridge where hundreds of thousands of acres are being irrigated and farmed. Then, too, the Canadian Pacific Railway Company is this year starting a ditch to divert enough water from the Bow River at Calgary to irrigate 2,000,000 acres between there and Medicine Hat.

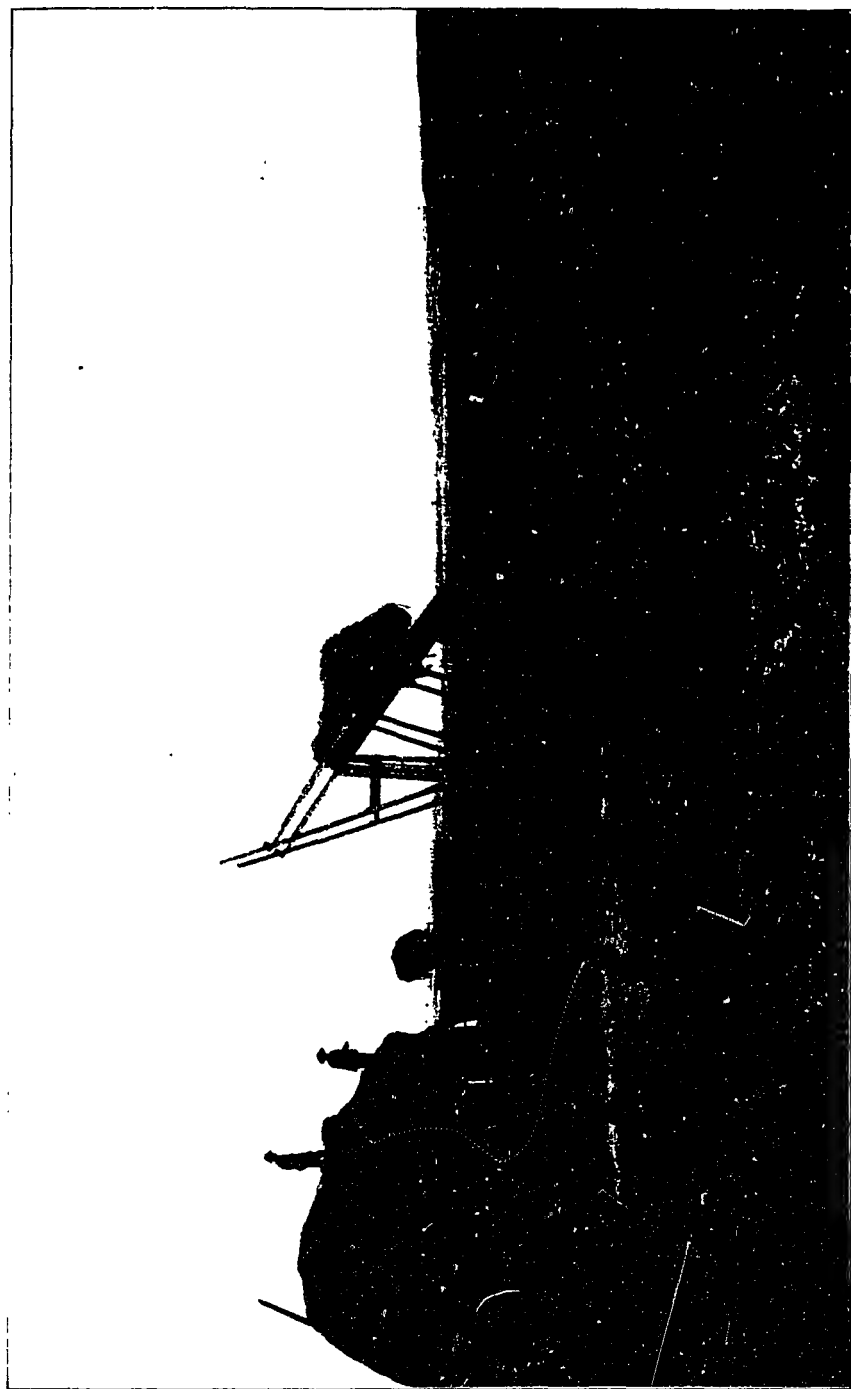


Photo by Steele & Co., Ltd.

MECHANICAL HAY-STACKER.

"Regarding the sheep-killing cowboy of whom I have read a great deal I will undertake to guarantee any sheep man from the States immunity from him. We may be 'in the clutches of the king,' but certainly we are protected from such Hooliganism as sheep slaughter by vindictive cowboys. I will again quote the American from Utah. He said that he thought that we had as good laws as they had in the States and that they were a great deal better enforced. The North West Mounted Police would make short work of these marauders if they were to 'turn loose' here.

"In conclusion to give an idea of the market here, I may state that last year we sold about 1,000 full grown sheep at an average of a little over \$5.00 per head and one car of lambs (257) brought \$3.10 per head."

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## HORSES.

From time immemorial the horse has been man's faithful and indispensable servant. Some few years ago when he was to some extent supplanted by steam and electric motive power, a panic ensued, and the conclusion was formed that the noble animal had at last outlived his usefulness and that presently a horse would be a rare sight in countries of advanced civilization. Events have entirely failed to justify this view. It is true that many of the services hitherto performed by the horse are now being better and more economically accomplished by machinery. The same may, however, be said about the services of man. Through the invention of labor-saving machinery the human race has been relieved of much monotonous drudgery, but the effect of this development has not by any means been to decrease the value of human labor. Man has reached a higher sphere of usefulness, and his friend the horse has followed him. We may, therefore, confidently look forward to a permanent demand for horses at remunerative prices.

It may, without exaggeration, be said that the Canadian North West Territories is the natural home of the horse. Every condition is present to make horse breeding the most profitable of occupations. Excellent soil, containing an abundance of lime, the high altitude, dry and invigorating climate, sufficiently arid in the ranching section to bring the horse to perfection, splendid markets south, east and west, and unrivalled economy in production. No country in the world can compete with the Territories in this branch of stock-raising. When the horse market is dull, and other countries are producing at a loss, the Territorial breeder can still ship at a reason-

able profit. When horse values are buoyant and other countries are making a working profit, the Territorial breeder is coining money. Why? Because in the Canadian North West the cost of raising a horse is practically nil, outside the risk to the mare and the cost of service fee, if the breeder has not a stallion of his own.

While it is absolutely a fact that horses can be raised in the Territories at a mere nominal cost, the day of broncho "busting" is past, never to return again, and the individual who desires to make a success of horse breeding must make up his mind to raise no more colts than he can thoroughly handle, halter break and stable, and have the best brood mares that his means will admit of. In the cattle ranching business the chief consideration is to produce quantity, both in bulk and number, but the breeder of horses, if he is a wise man, will devote his attention to nothing but quality. It stands to reason that horse raising on a large scale is a business beset with all sorts of difficulties. The violent system of breaking the horses necessary to adopt where time is limited and help expensive, the improbability of getting them thoroughly trained for city work and accustomed to being handled, in the short time that can be devoted to each horse after he has spent the first four or five years of his life roaming over the prairie, enjoying absolute freedom, the indiscriminate and injudicious mating, where the numbers are too great to enable the owner to give individual attention to the peculiarities of each mare, these are objections which condemn the range system of horse breeding now in vogue and point towards the smaller ranches and farms as the proper places to produce and handle horses. The above remarks refer with particular force to light draught and saddle horses. The heavy draught horse is naturally of a more phlegmatic disposition and is consequently more easily reconciled to the mastery of man.

The native broncho is fast being crowded out by better bred animals. He has his redeeming qualities, but in a few years the horse stock of the Territories will be so graded up, that the broncho will practically be buried in oblivion. Nearly all the well known breeds of horses are to-day represented in the Territories. The most numerous are the Clyde Thorough bred and Standard (trotting) bred. Thoroughbred shire and Suffolk Punch sires from England, Clydesdales from Scotland, Percherons from France, and trotting stock from the United States have been imported regardless of expense and the result is that the Territorial bred colt will compare favorably with any in Canada. Good threequarter-bred Clydes and Shires, which at maturity will weigh 1,400 lbs. to 1,600 lbs., have been finding a ready local sale at three years old for

\$100.00 to \$200.00 per head. Useful light horses, saddlers or drivers, bring from \$75.00 upwards according to quality.

A conservative estimate of the number of horses now in the Territories would be, 90,000 in Alberta, 45,000 in Assiniboia, and 15,000 in Saskatchewan, or a total of 150,000 head. The bulk of these are, of course, work animals.

One of the most interesting developments of the horse business of the American continent is the fact that the values of certain classes, or rather all recognized classes, of horses are to-day higher than ever they were, while the demand for the nondescript horse, or the misfit, is quite as limited as it was during almost any year of the period of depression between 1893 and 1897.

An excellent market exists in the Province of Manitoba for heavy ranch horses, fit to do farm work, and this market as well as that of the farming districts of Northern Alberta, Saskatchewan and Eastern Assiniboia, is bound to improve as years go by. In order to properly appreciate the position of the horse breeder of the West in respect to markets it is necessary to take into account the demand and supply of the Province of Manitoba, the principal market, as well as the Territories. We find that the total number of horses imported into Manitoba and the Territories during 1901 was 7,223 from the United States and 3,773 head from Eastern Canada, making a total import of 10,996 against a total combined export from Manitoba and the Territories of only 297 head which were shipped to the Province of British Columbia, the remounts shipped to South Africa and a number of Indian ponies which were moved from the Territories to Eastern Canadian points. It would appear that Territorial breeders can scarcely do better at present than devote attention towards catering to the requirements of the farming districts of the Territories and the Provinces of Manitoba and British Columbia, which are confined practically wholly to horses of the heavy draught type.

#### STATEMENT OF IMPORTS AND EXPORTS OF HORSES FOR 1902. NORTH WEST TERRITORIES.

EXPORTS.		1901	1902
To British Columbia .....		297	444
To Manitoba, Eastern Canada, and Great Britain (including remounts) .....		4,045	4,416
Total. ....		4,342	4,860
IMPORTS.			
From Eastern Canada .....		1,391	3,697
From the United States .....		4,073	14,822
Total. ....		5,464	18,719
Imports over Exports .....		1,122	13,859

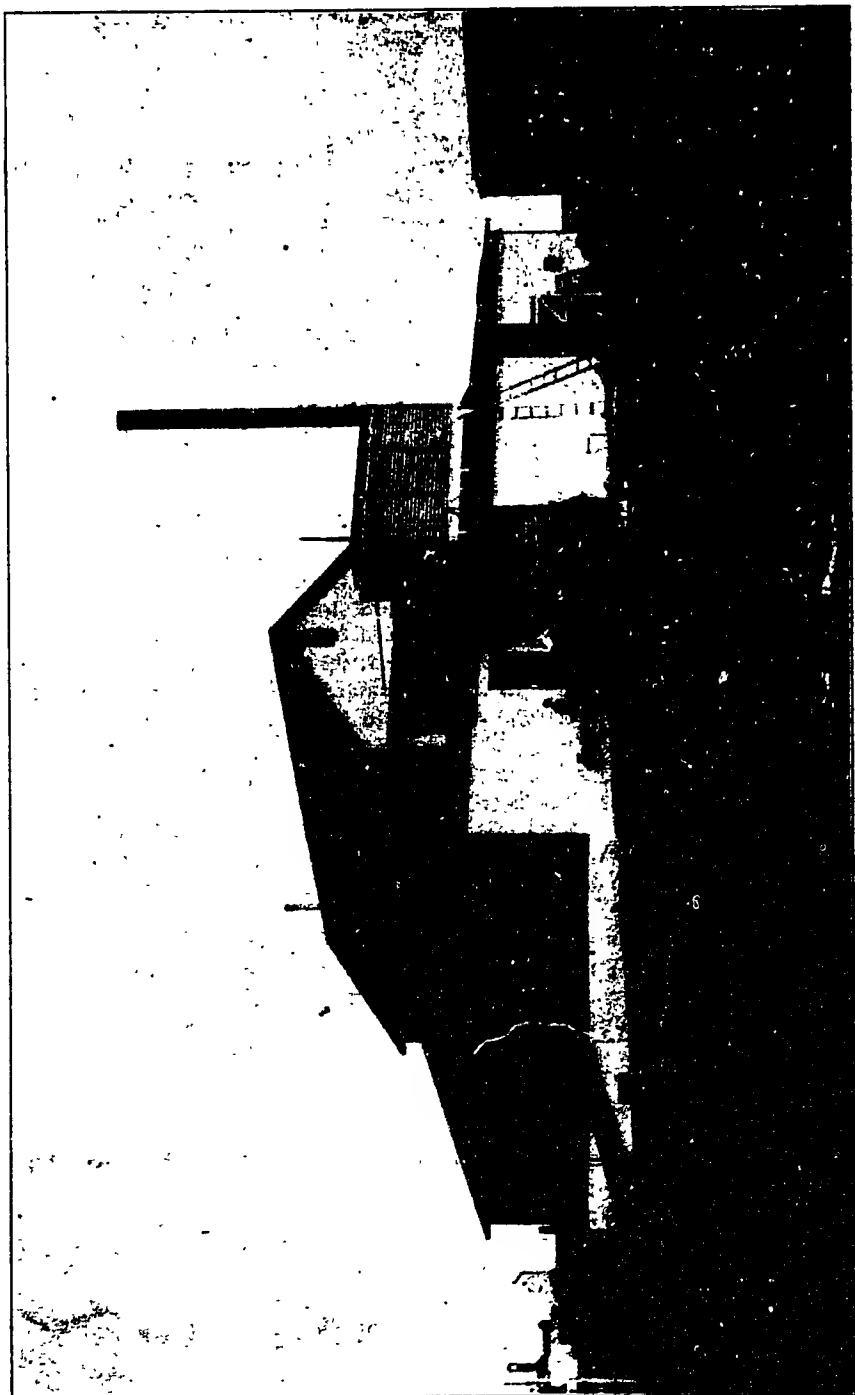
It is difficult to conceive of a more delightful occupation than horse raising in the North West Territories. The return for capital invested in the right kind of breeding stock must necessarily be greater than anywhere else if the business is conducted along rational lines. A few good horses can be raised upon every ranch without materially interfering with the work. The new-comer should, however, be careful not to embark in horse breeding exclusively unless his capital is sufficient to secure first class brood mares, the services of a superior stallion and good accommodation in the way of fenced pastures and outbuildings.

### DAIRYING.

Dairying is rapidly becoming the leading industry of the Territories and while not intimately connected with ranching is nevertheless a kindred industry and a handbook devoted to ranching would not, therefore, be complete without some reference to this subject. Besides, many smaller stockmen located near towns are now combining dairying with ranching with considerable success. As a rule, however, when their herds increase beyond a certain point they generally discard dairying and allow the calves to run with the cows.

The dairy organization in the Territories is one of which we are justly proud. It has been pretty well demonstrated in past years, that individual butter making and butter marketing, will never place a country in the front rank of butter producers. The phenomenal success of Denmark since co-operative dairying was brought to a state of perfection there well illustrates the point. Some years ago the dairymen of the Territories recognized the fact and conveyed their ideas to the Dominion Government, which promptly placed experts at their disposal and eventually organized a chain of co-operative creameries all through the country. These institutions, while subject to the control of the patrons, through boards of directors, are under absolute Government management. Most of the patrons separate their milk at home by means of hand separators and bring the cream to the dairy station once or twice a week in large cans. The cream is then carefully tested and weighed, and at the end of every month each patron gets credit for its equivalent in butter and receives a cash advance of ten cents per pound. When the total output of butter for the season is disposed of by the Government, a cheque for the balance due each patron is sent him from the Department of Agriculture. A uniform charge of 4 cents per pound is made by the Government for manufacturing and one cent





ONE OF THE CREAMERIES ESTABLISHED UNDER GOVERNMENT MANAGEMENT.

per pound is also deducted to create a fund for purchasing buildings and machinery of which the patron becomes part owner to the extent of the amount contributed in this manner. Any settler having the means to procure a few milch cows can thus insure a monthly cash income *sufficient to pay all his ordinary running expenses.*

The following statement shews the result of the last five years' operations of the Government creameries in the Territories. Nineteen stations, located in every portion of the Territories are now being operated by the Dominion Dairy Division.

Year.	No. of patrons.	Inches of cream supplied.	Lbs. of milk supplied.	Lbs. of butter manufactured.	Av'ge. price realized at creamery.	M'fg. charge per pound.	No. of days operation.	Gross value of product.
1898 .....	1051	396,606	1,657,542	484,948	19.22c	4	2,934	\$93,740.67
1899 .....	1072	407,095	1,303,221	501,907	20.70c	4	5,035	103,492.32
1900 .....	1169	560,989	46,211	637,052	20.32c	4	3,208	128,794.78
1901 .....	1345	600,957	80,579	672,393	19.40c	4	3,102	129,483.60
1902 .....	1014	449,999	.....	532,477	19.64c	4	.....	104,630.76

## IRRIGATION.

In the early history of ranching in the Canadian North West, absolutely no provision was made for the care of range stock during the winter and, as a matter of fact, with the exception of occasional losses during severe seasons this system was found fairly satisfactory. It is, however, idle to contend that stock left absolutely to shift for themselves, all winter, will make the same growth as they would with some sort of care, even to the extent of rough shelter and occasional feeding. The market now demands early matured beef and mutton, which involves a certain amount of feeding and ranchers have also learnt, through dearly bought experience, that young calves and old weak cows will not "rustle" for themselves all winter. The tendency is consequently more and more towards winter feeding a certain proportion of the stock. Such being the case, it is of the greatest importance to ranchers to gather as large a quantity of hay as possible for feeding young stock during the winter and also such other animals as may get down in condition before spring.

In the early days of settlement it was found that nature could be materially assisted by utilizing the waters of the mountain

streams running in an easterly direction through the Territories, for the purpose of irrigating large tracts of lands in Southern Alberta and Western Assiniboia. The Federal Government promptly took the matter in hand and large amounts of money have since been expended in making a complete topographic and hydrographic survey of the southwesterly portion of the Territories, in order to ascertain the volume of water available for irrigation and the most suitable and feasible areas tributary thereto, so as to facilitate intelligent and just administration. A casual examination of the rainfall tables presented in the beginning of this handbook will reveal the fact that there has been in every portion of the ranching district sufficient precipitation almost every year to mature crops. But with the increase of population and prosperity, more scientific methods of farming were naturally discovered and utilized, and the introduction of irrigation marks an epoch in the history of Western Canada. As a matter of fact, ranchers and farmers now are not satisfied with returns more or less in accordance with the accident of rainfall, but are aiming at perfection in the development and maturity of their grain and hay crops. It would, therefore, appear to be a sinful waste not to utilize the means, which have been placed at the disposal of settlers in districts favored with an adequate water supply, to supplement the efforts of nature. Having water available in his ditch or reservoir, the irrigation farmer is able to distribute it on his land at such seasons of the year and in such quantities as experience has taught him are the most propitious to favorable results. He is not at the mercy of the capriciousness of the weather. The contention of the experienced irrigationist is, that farmers cultivating without the aid of irrigation in any portion of the world, where a water supply by gravity can be secured, are playing an unskilful game of hazard in trusting solely to the bounty of nature and omitting to take such precautions as have in favored localities been placed within easy reach.

To sum the matter up, irrigation in a country like the Canadian North West, where the rainfall is in most years ample for an average crop, may appropriately be placed on the same basis as insurance. Insurance is comparatively a young institution. Its growth in the last thirty years of the century just closed is marvellous. We insure our houses. We insure their contents. We insure our lives. We insure against destructive hail storms. It is an institution that has crept into all classes of business until to-day we find consistent effort being put forth to work out some method of forecasting the anticipated results of every enterprise in which man embarks. Wherever a good irrigation system has been established the value of farm and ranch land has appreciated rapidly. This is due in

great measure to the fact that the average crop from year to year is better than in districts where the rainfall alone is depended on, with their consequent years of drouth which bring down the average.

Statistics are not usually very interesting reading matter, but perhaps the following table will not be out of place, as it puts valuable facts in small space and allows the eye to make ready comparison. Montana, the State in the irrigated belt which lies nearest to the ranching district of the Territories, has been selected for comparison with non-irrigating States of the Union. The average yield per acre there for the last ten years of wheat, oats, barley and potatoes, and the yield obtained during the same period in the States joining Montana on the eastward which are not under irrigation make an interesting comparison. The latter are conceded to be among the richest, if they are not the richest, agricultural States in the Union. Some small areas in Montana may be cultivated without irrigation, but these are very limited.

TABLE GIVING AVERAGE YIELD PER ACRE IN CERTAIN STATES FOR THE YEARS 1891 TO 1900, INCLUSIVE.

State.	Wheat. Bushels.	Oats. Bushels.	Barley. Bushels.	Potatoes. Bushels.
Montana .....	25.3	38.4	31.3	123
North Dakota .....	12.7	25.6	21.7	90
South Dakota .....	10.4	23.7	21.0	71
Minnesota .....	14.2	30.9	26.2	89
Wisconsin .....	14.5	32.9	27.4	87
Michigan .....	14.1	29.7	22.0	80
Illinois .....	13.2	31.5	24.1	72
Iowa .....	14.7	31.7	24.3	76
Nebraska .....	12.2	24.8	20.8	66

From the above table it will be readily seen that the average annual yields for the past ten years of the four crops given is very much greater in the irrigated State of Montana than in any of the unirrigated States with which the comparison is made.

The oldest irrigation enterprise in the Territories is the Calgary Irrigation Company. Its canal heads on the Elbow River and covers practically all the irrigable lands in the Calgary district. This canal is capable of irrigating an area of 45,000 acres. Some 35 miles of main ditch is now completed. One of the latest developments in western irrigation enterprise is the construction of the Canadian North West Irrigation Company's canal, usually known as the "Galt Canal." This extensive irrigation system which has been constructed

at an expenditure of over \$400,000 draws upon an inexhaustible supply in the lakes fed by the melted snows and glaciers of the Rocky Mountains, from which flows the St. Mary River, where the head works are located. The length of the main canal is 61 miles, of the Lethbridge branch 32 miles, and of the Stirling branch 22 miles, making the entire length of the Galt canal system 115 miles. The Bow River Canal scheme is a gigantic enterprise, which is now claiming the attention of the public. This proposed canal heads in the Bow River, and brings under irrigation millions of acres of lands between Calgary and Medicine Hat. The Canadian Pacific Railway Company is taking hold of the undertaking in a practical manner and it is likely construction work will be initiated in the near future, the necessary surveys having already been commenced.

The cost of irrigation where the water is supplied by a company is usually about one dollar per acre for the season. Many ranchers, however, have private ditches with water right for a certain area of land in which event they control the water and have no expenses beyond the maintenance of the ditch and head works.

An applicant for permission to construct works to divert a quantity of water exceeding ten cubic feet per second, shall file with the Commissioner of Public Works at Regina a memorial setting forth the particulars with respect to the application, and a plan of the proposed works. He shall also give notice of such filing in some newspaper published in the neighborhood, to be named by the Commissioner, not less than once a week for a period of thirty days.

So soon as these conditions have been complied with, the Minister of the Interior authorizes the construction of the works within a certain period. Upon the completion of the works an inspection thereof is made by the chief engineer and surveyor of the Department of Public Works of the North West Territories, and upon receipt of a certificate from him that they have been built in accordance with the plans and specifications submitted by the applicant, and that the necessary right of way for the works has been obtained, a license is issued in his favor by the Minister of the Interior upon payment of a fee of \$10.00. It is, however, necessary that the applicant shall furnish proof that he is the owner of the land to be irrigated, or that he has arranged with the owners thereof to furnish them with water, before a license is issued in his favor.

The applicant for a less quantity of water than ten cubic feet per second is not required to furnish such full information in relation to his application as the Act prescribes in the case of an applicant who desires a larger quantity of water.

Irrigation districts may be established under the Ordinance of the North West Territories in that behalf upon the vote of two-

thirds of the adult owners of land therein, after petition for that purpose has been made accompanied by a statutory declaration that two-thirds of the land comprised in the tract can be irrigated. Such districts are administered by trustees duly elected. They may obtain right to the use of water in the same way as private persons or companies. The amount necessary to carry out the works may, if authorized by a vote of the voters, be raised by loan on the credit of the lands in the district.

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## CHIEF TOWNS OF THE RANCHING DISTRICT.

The City of Calgary, the financial and wholesale centre of Alberta, is the largest town in the Territories. It has a population of about 5,500 which is rapidly increasing. It is situated at the confluence of the Bow and Elbow rivers, about 70 miles east of the Rocky Mountains. It is the centre of the northern ranching districts of Southern Alberta, and supplies many of the smaller mining towns to the west. It is built principally of sandstone, and is at the junction of the Calgary and Edmonton branches with the main line of the Canadian Pacific Railway. It is the western general headquarters of the Canadian Pacific Railway, it is also an important station of the Mounted Police, and in a variety of ways does a large and increasing business. It has waterworks, electric light, several banks and wholesale houses, first class hotels, several churches, two large hospitals, public and private schools, Government creamery, and excellent stores. Some four miles south of Calgary is situated the agricultural experimental station, under irrigation, maintained by the Territorial Government. The lumber mills of the Calgary district manufacture 3,000,000 feet of lumber annually, Lineham's mills manufacture 2,250,000 feet. The city lumber yards also do an enormous trade in British Columbia lumber and the planing mills employ twenty-five hands with a monthly pay roll of \$1,100. The Canadian Pacific Railway at Calgary employs 120 men in the shops and yard and has an annual pay roll in the city of about \$150,000. There is also an abattoir, cold storage and power house with a killing capacity of 150 cattle per day and a cold storage capacity for 4,000 carcasses. The flour mills have a capacity of 160 barrels per day, and an elevator capacity of 160,000 bushels. The machinery is operated by electricity generated by water power in the Bow River. A large brewery is also located here with a capacity of 50,000 barrels per annum and employing forty-five hands. Calgary



LINE-UP OF WESTERN CANADA POLO TEAM.

stone quarries produced the material for some of the finest buildings in Winnipeg and Vancouver.

The Town of Lethbridge is situated in the southern part of the district of Alberta, fifty miles from the International Boundary. The town is built on the right bank of the Belly River, an important tributary of the Saskatchewan. It is on the Crow's Nest division of the Canadian Pacific Railway and is the headquarters of the Alberta Railway and Coal Company's line. It is also the headquarters of the St. Mary's River Railway, which penetrates the southwestern part of the district. The town has a population of 2,500. Lethbridge has a first class telephone service, and is lighted by electric light. The Bank of Montreal and the Union Bank have branches in town. The Dominion Government has Land Offices, Customs House, Immigration Buildings. The North West Irrigation Company has its headquarters in Lethbridge. All the religious denominations have commodious churches and well-established congregations. The town has a first class general hospital with a large staff of competent nurses, and there are efficient public, separate and high schools. Lethbridge is covered with a network of irrigation canals that furnish water to the gardens, lawns and parks. The chief industry of the town is coal mining. The Galt coal mines, which have been in operation since 1883, employ about five hundred hands, and their output is growing surely and steadily. The output is now about 250,000 tons annually. The machine shops and railway employ an additional hundred men. The pay roll to mine and railway employees reaches \$400,000 annually, or between thirty and forty thousand a month.

Macleod (population 1,000), on the Old Man's River, is the southern terminus of the Calgary & Edmonton Railway, and an important station on the Crow's Nest Pass Railway line, is the chief centre of business and headquarters for the great ranching industry of Southern Alberta. It has banks, and an excellent hospital, Mounted Police headquarters, several churches and good educational facilities.

Medicine Hat, the principal town of Western Assiniboia, promises to become one of the leading manufacturing towns of the West. It has a population of 2,200, and is situated on the south branch of the mighty Saskatchewan River. It has a complete waterworks system and is lighted and heated by natural gas. A fine general hospital is located here, as well as several banks. The town is a railway divisional point. This town is the north easterly terminus of the Crow's Nest Pass Railway, which has been in operation for several years and is now completed to Kootenay Lake, where steamer connection is for the present made with the Canadian Pacific



Railway system in Southern British Columbia. Owing to the fact that the country immediately to the east of the foothills in Alberta is being rapidly settled by small stockmen, many large ranchers are moving their herds to Western Assiniboia. It is, therefore, more than probable that there will within a few years be more large ranches tributary to Medicine Hat than to any other town in the Territories.

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### MARKET PRICES.

A great many ranchers combine a certain amount of farming with their live stock operations and, undoubtedly, the time will come when this practice will be much more general than it is to-day; it is, therefore, of paramount importance that there should be a good market available for farm produce. A glance over the figures quoted for farm produce will convince anyone that paying attention to what is usually considered the side issues of the ranch in Western Canada will ensure a cash revenue often sufficient to pay running expenses. The prices charged for ranch and farm implements, building materials, provisions, etc., is a matter of great moment to every person now in the country or who contemplates settling.

It should be observed that owing to the enormous extent of the portion of the Territories more particularly referred to herein, prices will vary to some extent in the different parts of the country. Other influences also affect retail prices and many lines of goods quoted, lumber, for instance, are much higher at the time of writing than the average prices for several years past, owing to the enormous demands upon the British Columbia and local mills at the present time. A very considerable reduction may be expected as soon as these concerns are able to cope with the business offered. Prices for agricultural implements are fairly stable.

While on this subject, it may be stated, that the total cost of fencing, including posts and labor, with three strands of barbed wire and posts 20 to 25 feet apart, is about \$100.00 per mile. Some stockmen prefer to acquire ownership of or lease land and run their herds inside fenced enclosures. All cultivated land has to be fenced to protect the crop from stock running at large.



## PRICES PAID FOR PRODUCE.

Wheat, per bushel .....	\$ .40 to \$ .65
Oats, per bushel .....	.25 " .50
Barley, good malting .....	.40 " .45
Barley, feed .....	.25 " .30
Hay, per ton .....	5.00 " 10.00
Rye, Timothy or Brome hay .....	7.50 " 12.00
Potatoes, average price per lb.....	.01 " ....
Carrots .....	.50 " .75
Onions, per lb.....	.05 " ....
Butter .....	.18 " .35
Eggs .....	.15 " .50
Poultry, per lb.....	.12½ " .20
Pork, live weight, per lb.....	.04 " .06
Pork, dressed, per lb.....	.06 " .08
Beef, live weight, per lb.....	.02½ " .04
Beef, dressed, per lb.....	.05½ " .07
Mutton, per lb.....	.03½ " .04

RETAIL PRICES CHARGED FOR PROVISIONS, IMPLEMENTS,  
HARDWARE, ETC.

## GROCERIES.

Tea per lb. ....	\$ .25 to \$ .50
Coffee, per lb.....	.30 " .50
White sugar (15 lbs. for \$1.00) .....	.07½ " ....
Brown sugar (16 lbs. for \$1.00) .....	.06½ " ....
Oatmeal .....	.03½ " .3½
Flour, per sack .....	2.00 " 3.00
Bacon, breakfast, per lb.....	.15 " ....
Bacon, dry salt, per lb.....	.11 " ....
Ham, per lb.....	.13 " ....
Lard, per 3-lb. tin .....	.40 " ....
Evaporated apples, per lb.....	.10 " ....
Evaporated apricots, per lb.....	.15 " ....
Syrup, per gall. pail .....	.80 " ....
Coarse salt, per bag (per 50-lb sack) .....	.90 " ....
Fine salt, 50-lb. sack .....	1.00 " ....
Apples, dried, per lb.....	.08 " ....
Currants, per lb.....	.10 " ....
Raisins, Sultana, per lb.....	.09 " ....
Raisins, Valencia, per lb.....	.12 " ....
Raisins, table layers, per lb.....	.20 " ....
Tinned vegetables, corn, peas, tomatoes, and baked beans per tin .....	.12½ " ....
Candied peel, mixed, for 4 lbs .....	1.00 " ....
Jam, assorted, for 7 lbs.....	1.00 " ....
Rice, Vatna, for 14 lbs .....	1.00 " ....
Rice, Jarva, for 13 lbs .....	1.00 " ....
Soap, for 14 1-lb. bars.....	1.00 " ....
Baking powder, for 4 1-lb. tins .....	1.00 " ....
Starch, corn, for 9 lbs.....	1.00 " ....

## DRY GOODS.

Factory cotton, per yard .....	\$ .05 to \$ .12½
Bleached cotton, per yard .....	.07 " .20
Cottonade, per yard .....	.18 " .30
Flannel, per yard .....	.18 " .45
Flannelette, per yard .....	.08 " .20
Strong tweed, per yard .....	.35 " 1.00
Wool socks, per pair .....	.12½ " .50
Tweed suits, men's size .....	3.50 " 20.00
Tweed suits, boys' size .....	1.75 " 10.00
Blankets .....	2.00 " 10.00
Strong boots, men's size .....	1.25 " 3.00
Strong boots, boys' size .....	.80 " 2.50
Strong boots, children's .....	.45 " 1.50

## FURNITURE.

Hardwood chairs .....	\$ .55 upwards
Hardwood rocking chairs .....	1.75 upwards
Hardwood tables .....	3.00 upwards
Hardwood bedsteads .....	4.00 upwards

## LUMBER.

Fence posts, per hundred .....	\$ 4.00 to \$ 8.00
Siding, flooring and ceiling, per thousand square feet.....	30.00 " 35.00
Rough boards, per thousand square feet.....	22.00 " 25.00
Studding, per thousand square feet.....	23.00 " 26.00
Shingles, per thousand square feet.....	3.00 " 3.75
Building paper, per roll of 400 square feet... ..	1.00 " 1.15

## AGRICULTURAL IMPLEMENTS.

Breaking plows .....	\$ 20.00 to \$ 22.00
Stubble plows .....	18.00 " 24.00
Iron harrows (3 section).....	15.00 " .....
Iron harrows (4 section).....	25.00 " .....
Disc harrows .....	30.00 " 35.00
Garden rakes .....	.50 " .75
Garden hoes .....	.40 " .60
Hay forks .....	.60 " .75
Manure forks .....	.75 " 1.00
Mower .....	55.00 " 65.00
Rake .....	28.00 " 35.00
Waggon .....	75.00 " .....
Press drills .....	90.00 " 120.00
Self binder .....	150.00 " 170.00
Buckboard .....	45.00 " 65.00
Buggies .....	75.00 " 125.00
Road carts .....	25.00 " 50.00

## HARDWARE.

Barb wire for fencing, per 100 lbs.....	\$ 3.50 to \$ 4.00
Spades and shovels .....	1.00 " 1.50
Saws, cross cut .....	.75 " 4.00
Saws, carpenter .....	.50 " 4.00
Bucksaws .....	.65 " .85
Hammers .....	.65 " 1.25
Chisels .....	.40 " .75
Brace and bits .....	1.00 " 5.00
Jack plane .....	1.00 " 2.00
Smoothing plane .....	.75 " 2.00
Augers .....	.40 " 1.25
Axes .....	.75 " 1.50
Nails, wire, per 100 lbs.....	5.00 " 6.00
Nails, wrought, per 100 lbs.....	4.70 " 5.50
Nails, cut, per 100 lbs.....	5.00 " 5.50
Coal oil, per gallon .....	.40 " .60
Linseed oil, raw or boiled .....	1.25 " ....
White lead, best brands, per 25-lb. can .....	2.00 " 2.50
Cooking stoves, (complete) .....	23.00 " 45.00
Box stoves .....	4.50 " 13.00
Stovepipes, per length, each .....	.15 " ....
Coal heating stoves .....	5.00 upwards

## COAL.

Anthracite (hard), per ton .....	\$ 7.25 to \$ ....
Galt (soft), per ton .....	6.25 " ....
Lignites, per ton .....	4.00 " 6.00

## WAGES FOR RANCH HANDS.

As a general rule, the new comer or "green hand," as he is usually termed, has a great deal to learn. If he has had considerable experience with live stock elsewhere he usually contrives to get work with fairly good wages without much trouble. The inexperienced, who has everything to learn, is a drug in the market and should consider himself well paid with his board for at least the first month or two. Wages for good men range from \$20 to \$40 and even \$50 per month. During the haying, which usually commences about the middle of July, there is generally an abundance of work for all classes of labor, experienced or inexperienced. High wages are paid domestic servants. In the town from \$10 to \$15 per month, and on ranches \$12 to \$18 per month is readily paid. The prospect of young women themselves becoming mistresses of comfortable homes, which generally happens very soon after they arrive, should prove an additional inducement to this class to come to Western Canada.



READY FOR THE ROUND UP.

## CUSTOMS REGULATIONS.

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**Settlers' Effects, viz.:** Wearing apparel, household furniture, books, implements and tools of trade, occupation or employment, musical instruments, domestic sewing machines, live stock, carts and other vehicles and agricultural implements in use by the settler for at least one year before his removal for Canada, not to include machinery, or articles imported for use in any manufacturing establishment, or for sale, also books, pictures, family plate or furniture, personal heirlooms left by bequest provided that any dutiable articles entered as settlers' effects may not be so entered unless brought with the settler on his first arrival, and shall not be sold or otherwise disposed of without payment of duty until after twelve months' actual use in Canada; provided also that under regulations made by the Controller of Customs, live stock, when imported into Alberta by intending settlers shall be free unless otherwise ordered by the Governor-in-Council.

Settlers entering from the United States are allowed to enter free stock in the following proportions: One animal of neat stock or horses for each ten acres of land purchased or otherwise secured under homestead entry, and one sheep, or swine, for each acre so secured.

The settler will be required to fill up a form (which will be supplied him by the customs officer on application) giving description, value, etc., of the goods and articles he wishes to be allowed to bring free of duty. He will also be required to take the following oaths:

I.....do hereby solemnly make oath and say that all the goods and articles hereinbefore mentioned are, to the best of my knowledge and belief, entitled to free entry as settlers' effects, under the tariff duties of customs now in force, and that all of them have been owned and in actual use by myself for at least six months before removal to Canada; and that none of the goods and articles shown in this entry have been imported as merchandise or for any use in manufacturing establishment, or for sale, and that I intend becoming a permanent settler within the Dominion of Canada.

Sworn before me at.... |  
 .. day of ... 19.. |

The following oath shall be made by intending settlers when importing live stock into Alberta free of duty:

I.....do solemnly swear that I am now moving into Alberta with the intention of becoming a settler therein, and that the live stock enumerated and described in the entry hereunto attached is intended for my own use on the farm which I am about to occupy (or cultivate) and not for sale or speculative purposes, nor for the use of any other person or persons whomsoever.

## HOMESTEAD REGULATIONS.

Any even numbered section of Dominion Lands in Manitoba or the North West Territories, excepting eight and twenty-six, which has not been homesteaded, reserved to provide wood lots for settlers, or for other purposes, may be homesteaded upon by any person who is the sole head of a family,

or any male over 18 years of age, to the extent of one-quarter-section of 160 acres, more or less.

### ENTRY.

Entry may be made personally at the local land office for the district in which the land to be taken is situate, or if the homesteader desires, he may, on application to the Minister of the Interior, Ottawa, the Commissioner of Immigration, Winnipeg, or the local agent for the district in which the land is situate, receive authority for some one to make entry for him. A fee of \$10 is charged for the homestead entry.

### HOMESTEAD DUTIES.

Under the present law homestead duties must be performed in one of the following ways, namely:—

1. By at least six months' residence upon and cultivation of the land in each year during the term of three years.

2. If the father (or the mother, if the father is deceased) of any person who is eligible to make a homestead entry resides upon a farm in the vicinity of the land entered for by such person as a homestead, the requirements of the law as to residence prior to obtaining patent may be satisfied by such person residing with the father or mother.

3. If a settler has obtained a patent for his first homestead, or a certificate for the issue of such patent countersigned in the manner prescribed by the Dominion Lands Act, and has obtained entry for a second homestead, the requirements of this Act as to residence prior to obtaining patent may be satisfied by residence upon the first homestead.

4. If the settler has his permanent residence upon farming land owned by him in the vicinity of his homestead, the requirements of the law as to residence may be satisfied by residence upon the said land.

### APPLICATION FOR PATENT

Should be made at the end of the three years before the Local Agent, Sub-Agent, or the Homestead Inspector. Before making application for patent the settler must give six months' notice in writing to the Commissioner of Dominion Lands at Ottawa of his intention to do so.

### INFORMATION.

Newly arrived immigrants will receive at any Immigration Office, or Dominion Lands Office in Manitoba or the North West Territories, information as to the lands that are open for entry, and from the officers in charge, free of expense, advice and assistance in securing lands to suit them and full information respecting the land, timber, coal and mineral laws as well as respecting Dominion lands in the Railway Belt in British Columbia, may be obtained upon application to the Secretary of the Department of the Interior, Ottawa; the Commissioner of Immigration, Winnipeg, Manitoba; or to any of the Dominion Lands Agents in Manitoba or the North West Territories.

## RAILWAY FREIGHTS.

## LOW RATES ON SETTLERS' EFFECTS INTO ALBERTA.

## (Freight Regulations on the C. P. R.)

1. The rates in this tariff are subject to the general notices and conditions of carriage printed in the company's form of Shipping Receipt.

2. Carloads of Settlers' Effects, within the meaning of this tariff, may be made up of the following described property for the benefit of actual settlers, viz.: Live stock, any number up to but not exceeding ten (10) head all told, viz., cattle, calves, sheep, hogs, mules or horses, household goods and personal property (second hand); wagons and other vehicles for personal use, (second hand); farm machinery, implements and tools (all second hand); lumber and shingles, which will not exceed 2,500 feet in all, or the equivalent thereof; or, in lieu of, not in addition to the lumber or shingles, a portable house may be shipped; seed grain, small quantity of trees or shrubbery; small lot of live poultry or pet animals; and sufficient feed for the live stock while on the journey.

3. Should the allotted number of live stock be exceeded, the additional animals will be charged for at proportionate rates over and above the car load rate for the settlers' effects, but the total charge for any one such car will not exceed the regular rate for a straight car load of live stock.

4. Passes: One man will be passed free in charge of live stock when forming part of carloads, to feed, water and care for them in transit. Agents will use the usual form of Live Stock Contracts.

5. Less than carloads shall be understood to mean only household goods (second hand) wagons, or other vehicles for personal use (second hand) and (second hand) farm machinery, implements and tools. Less than carload lots must be plainly addressed. Settlers' effects rates, however, will not apply on shipments of second hand wagons, buggies, farm machinery, implements or tools, unless accompanied by household goods. Minimum charge on any shipment will be 100 pounds at regular first-class freight.

6. Merchandise such as groceries, provisions, hardware, etc., also implements, machinery, vehicles, etc., if new, will not be regarded as settlers' effects and if shipped will be charged the regular classified tariff rates. Agents, both at loading and delivering stations are therefore strictly enjoined to give their personal attention to the preventing of the loading of contraband goods, and to see that the actual weights are way billed when carloads exceed 20,000 pounds.

8. Settlers' Effects to be entitled to the carload rates, cannot be stopped at any point short of its destination for the purpose of unloading part. The entire carload must go through to the station, to which originally consigned.

9. The carload rates on settlers' effects apply on any shipment occupying a car, and weighing 20,000 pounds or less. If the carload weighs over 20,000 pounds, the additional weight will be charged for at rates shown.

Top Loads: Agents must not permit, under any circumstances, any article to be loaded on the top of box or stock cars; such manner of loading is dangerous, and is absolutely forbidden.